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THE SUBCONSCIOUS

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BY

JOSEPH JASTROW

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TO DR. JOHN MADISON TAYLOR

IN APPRECIATION OF THE RARE PRACTITIONER
WHO COMBINES WITH PROFESSIONAL ACUMEN
A SUSTAINING SYMPATHY AND A KEEN INSIGHT
INTO THE PSYCHIC FAILINGS OF COMPLEX HUMANITY

1951

PREFACE

THE purpose of this essay in descriptive psychology is to provide a survey of a comprehensive aspect of human psychic endowment. The very definition of psychology as the science of consciousness has tended to focus attention upon conditions of high introspective lucidity, and, by implication, to look upon areas from which such illumination is withdrawn, as quite too obscurely lighted for profitable examination. Thus casually visited, and with no vital share in the psychologist's concerns, the abode of the subconscious has drifted into the service of a lumber-room, in which to deposit what finds no place in the mind's active economies.

The word *subconscious* has a dubious sound; and those to whom it brings slight illumination associate it with questionable phenomena of rare occurrence and unusual significance. It should be a homely term; and its place is close to the hearth of our psychological interests. The word, in company with others of analogous origin, has been made the symbol of an inner mystery, a pale double of ourselves, disporting itself strangely when our oversight is relaxed, and capable, if only

its excursions could be followed, of overthrowing the limitations of sense and of discounting our most accredited psychological currency. Not mainly as a corrective to such unwarranted misconception, — though quite willing that the work should be thus serviceable, — but as a statement of its natural import, its comprehensive scope in the familiar fields of normal life and in the perplexing mazes of the abnormal, I have undertaken a systematic exposition of subconscious functioning. It requires a volume to convey a proper conception of the intimacy of such participation in the normal trend of the mind's affairs; and, with similarly motived excursions into the abnormal field, of the instructive issues that ensue when its rôle is imperfectly played. There is, indeed, no corner of the mental establishment that can well remain unvisited, if one would appreciate the pervasiveness of this influence in the household. It is for such a tour of inspection, undertaken with systematic purpose, that the book offers its services as a modest cicerone.

Apart from the extensive data recorded with the interest of the professional student of mental disorder, the resources that the prospector in these fields finds at command are, though eagerly availed of, not notably helpful to his projects. I have given sparing notice of the many sources examined; for I commonly found little profit in

such pursuit, and think it safe to assume that only the interest of one to whom the literature is known, would take heed of what I might thus have offered. I have given credit, when it seemed pertinent, to the data and the expositions that have helped me, and have been content with that. Only a few, and in the main slight general surveys of the field have been published. The one notable exception is the work of the late Mr. Frederic W. H. Myers ("Human Personality," 2 vols. 1903). In respect to that, I record with pleasure my appreciation of the ability and devotion of the author, as well as of the skill of his presentations; and I record with regret, that in spite of a common interest in the same ranges of phenomena, and a fair measure of agreement in the interpretation of the more objective and verifiable data, I yet find my point of view so little in accord with his, that I have been able to profit but slightly by his discerning labors. It is rare that any writer on psychology can carry through his purpose without acknowledging his obligations to Professor William James, — a privilege that I am wholly unwilling to forego. Dr. Morton Prince has kindly revised my account of his interesting "case." There is hardly a page of the book that is not under obligations to the critical care of my wife.

JOSEPH JASTROW.

MADISON, WISCONSIN, March, 1906.

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PART I

NORMAL

THE SUBCONSCIOUS

I

INTRODUCTION

THE submerged life of the mind, however seemingly mysterious and really elusive, yet persistently attracts the naturalist of the mental world. At favorable moments, when the sea of consciousness is unruffled and calm contemplation seems promising, he peers intently into the shadowy depths, and is disappointed to find how little he can distinguish of what lies below the surface, how constantly the waters send back merely the reflection — partly distorted — of his own familiar features. His curiosity unsatisfied, he is tempted to wish for the intervention of some fairy of kindly disposition toward psychologists, who would invest him with a magical diving-suit enabling him to sink below the waters and examine leisurely the life of those hidden depths, while maintaining a supply of fresh air from the consciousness above. For psychologist and layman alike, the ordinary endowment permits only a plunge for a moment or two into the waters of the subconscious, and a return to the surface with some brief glimpse of the world below. If we

remain there longer, our vision becomes clouded, impressions become vague, the memory uncertain; we seem absorbed in close contemplation, and yet but dimly realize what it is we contemplate; we dream — and hardly know upon awakening what was really seen and what imagined. At times strange tales are told of those depths, — of curious forms of life, part of this world and part suggestive of some unreal world beyond. Monsters and sprites and elves are there, who on rare occasions, it is said, disport themselves upon the tops of the waves, much to the consternation of those who bring the tale. Ghosts of our former, or of our other selves are said to lurk in this night-side of mind, at times reasserting their portion in the conscious life that alone we call our own. As we turn to observe them, to stare at them with the waking eye, the cock crows, the dawn of consciousness looms above the horizon; we are again awake — and the ghosts have vanished.

It is certainly not easy to discover how this other half — supposing that it be our other half — lives, and where it moves and whence it has its being. In some measure the difficulty seems inherent in the nature of what, without thereby solving the riddle, we are content to speak of as consciousness. For this word we have no true synonym; it expresses something that is too intimately part and parcel of our mental existence to be readily para-

phrased. It represents the most fundamental of all the conceptions by means of which we aim to make intelligible the story of our intellectual life. Fortunately it is easier to render an acceptable account of what consciousness effects than of what it is; and it is solely with the practical workings of consciousness that we shall be concerned in this study. The first step in the inquiry as to how we come to know what we do, to think and feel and act as we do, brings conspicuously before us the supreme service of consciousness; the term sums up for our practical understanding the most comprehensive aspect of psychic activity. We realize that — neglecting extreme instances — we are always intently or diffusely, observingly or reflectively, actively or passively, pleasantly or unpleasantly conscious; that however fluctuating its protean aspects, consciousness is continuously present in all psychic life; that to live means for us to be variously conscious. In this sense we know intimately and familiarly the rôle of consciousness as a pervading influence in our mental existence; in this sense we can intelligibly discuss its operations, its efficiency, its sphere of influence. And that is all that is requisite for the special purpose of the present undertaking, — which is the more precise comprehension of those manifestations of consciousness, and of those varieties of its activities, that take place below the threshold of our

fully waking minds, those subconscious products of our intelligence wrought — to appropriate Dr. Holmes's phrase — in the underground workshop of thought.

II

THE FUNCTION OF CONSCIOUSNESS

WHAT, then, is the efficiency and scope and purpose — or in brief, the function — of ordinary consciousness? To approach this question profitably, we must recognize certain broad and readily verifiable distinctions. The most casual psychologist will have noticed that his consciousness may be directed inwardly towards experiences within himself, or externally towards something occurring in the environment without. By the activity of the one kind I am made aware at the present moment that I still have some of the unpleasant after-effects of a lingering cold in the head, that I have been wearing a new pair of boots all day, that occasionally I still feel a little annoyed because in the after-dinner speech I made last night I omitted some of my best points, that in the interstices of the attention which I am giving to my present task I am groping about to recall the address of one of my correspondents, that I am just dismissing from my attention a rambling reëxperiencing of my last night's dream, and that in anticipation of the writing of a note — for which I must in a moment interrupt my present occupation — I am looking

about for the most presentable reasons for declining an invitation that promises little pleasure.[1] By the other form of awareness I come to realize — and as before to a more or less absorbing extent — that the inkstand needs refilling, that the wind is blowing in the trees, that the clock is sounding a premonitory whirr which I recognize as the herald preceding by a few minutes the stroke of the hour, that the lamp has been smoking, and that my paper is lying partly in the shadow of a row of books to my left. Naturally these several forms and directions of awareness do not appear with equal distinctness at the same moment. They are fitfully revealed by the sweep of the search-light of attention as it plays upon this and that detail of the composite picture; yet they are all present in the shadowy background and contribute something to the *genre* of the whole. Naturally also do the two kinds and the several manifestations of awareness constantly intermingle and antagonize and coöperate in the ceaseless flow of moods and states, of occupations and attentions, — wave upon wave of complex emotional, intellectual, and volitional content. Thus I may explain that it was because I was too much absorbed in my inward contempla-

[1] I am here throwing together the awareness by inner observation of bodily sensations, and of the elaborate products of memory, reflection, desire, intent, and the like. The distinctive status of the two is recognized when a more careful analysis becomes necessary.

tions that I did not sooner notice the soot from the lamp; and because of an indolent disinclination to interrupt my present business that I was not sufficiently disturbed by the shadow on my paper to induce me to stop and remove the pile of books. The inward awareness of the type that is concerned with organic sensations is likely to have a decided flavor of pleasure or pain, an immediate bearing upon the welfare of the body. The outward awareness is information-bringing in purpose; it assumes an intellectual attitude presenting the query: What is this that affects my senses? Such curiosity in regard to the conditions that confront us will naturally be utilized in the service of the evolutionary struggle that animates and directs conduct. It is because consciousness, like other endowments, has proved of use in securing for the individual the utmost expansion of his life possibilities, that it has been developed so far and just as we now enjoy it. The evolution of consciousness has been shaped by the results of its functional utility; which means that we possess the particular kinds and degrees of consciousness that we normally exercise, because in our environment those forms of consciousness have proved themselves, all things considered, the most serviceable.

Consider in this light the physiological functions; normally, many of these give rise to no sen-

sations whatever. Glands are secreting, waste matter is accumulating, nutriment is being absorbed, and an indefinite complex of upbuilding and downtearing changes are going on in all the systems of the bodily economy with a minimum of accompanying sensation; they go on equally well when the brain is drowsy with sleep, or drugged with anæsthetics. In health these functions conduct themselves invisibly, silently, imperceptibly — like well-trained servants. But when the delicate balance of one or another of these functions is interfered with, all sorts of sensations, more or less vaguely localized and indefinitely realized and difficult to describe, but all variously unpleasant, make themselves known. When the servants do not perform their duties properly, the master's comfort is disturbed, of which disturbance he becomes unpleasantly aware. Occasionally, by way of compensation, we seem really to enjoy the feeling of unusual bodily well-being; such is the reaction of a vigorous body to the glow of exercise, or the tonic that comes with the breezes of the sea, or the balm of those rare days in June. Feelings of this kind are probably realized in terms of activities, such as ease of movement and respiration, with which a minor degree of awareness is commonly experienced. Getting well is rarely a positive joy, but in the main a vaguely or keenly felt release from pain and discomfort. The very diversity of

the catalogue of pains, along with the difficulty of their description, offers a source of perplexity to the physician and taxes the introspective skill of the patient. They are nature's cries of distress, a peremptory demand to a hearing before consciousness, even to the exclusion of every other demand. An intense pain monopolizes the attention and prevents all rational thought or interest in the ordinary affairs of life; among the mental tokens of convalescence is the resumption of concern in less subjective matters than aches and bodily symptoms. The fact that there is normally no consciousness connected with the performance of function of so many of our bodily organs finds explanation in the lack of any useful service that could thus be ministered. We do not need to be, surely have no desire to be conscious of the workings of our livers or of our intestines; it would be a superfluous kind of awareness, and thus has not been developed.[1] Likewise have we no sensation, in turning the eyes to the light, of the closing in of the pupil to shut out the glare; the process

[1] "Movements of viscera that do not discharge their contents externally have no accompanying sensation. No useful purpose can be served by the acquisition of such a sensation, and therefore no such sensation has been acquired. Had it been as important to the welfare of the individual to be as aware of the distention and emptying of his gall bladder as of the distention and emptying of his urinary bladder, no doubt the sensations accompanying these conditions in the one would have been as vivid as in the case of the other." — Mercier.

goes on feelinglessly, makes no report to consciousness because none is needed. There seem established within the body provisions for rare and unusual forms of awareness in connection with disturbance of function, along with a serviceable apportionment of consciousness among the normally functioning activities.

The principle of utility thus appears as effective in the workings of the inherited, fundamentally physiological functions; and it appears likewise in the manner of our possession of a large number of acquired habit activities that ordinarily demand but a minimum of conscious attention, and are performed upon appropriate occasions at the command of an intelligence that directs them only sufficiently to recognize the appropriateness of the occasion; or, it may be, by an almost instinctive response to the presence of their natural stimuli. By this means the higher forms of conscious attention are reserved for those activities that require such concentration; while the centres controlling the more habitual actions need no direct initiative of their chief to attend to the common demands of daily life; all of which is obviously a highly economical division of labor. Once over the heroic infantile struggles with equilibration, we need not concern ourselves with how we walk; and after a language has been learned, we may devote the attention to thinking of what we wish to say and let

the speech-habits attend to the utterance. We need not throw the maximum of our reflection upon the guiding of the pen, but upon the content of what we wish to write. We can appreciate the bright sallies of our neighbor at a dinner party, and set our wits to work for an equally apt repartee, while our hands are manipulating knife and fork, and the teeth and their partners are preparing the food for digestion. Yet our central consciousness is constantly on the alert, ready to take charge of the process when there is any need, when the routine of habit is diverged from. When in walking we come to the edge of a hill or to the crossing of a crowded street or to a stretch of slippery sidewalk, we consciously pick our steps; when speaking in public in a hall of poor acoustic qualities, or when speaking to a foreigner or to a person hard of hearing, we consciously attend to our enunciation; when at the table we are served with fish, we give enough attention to the machinery of mastication so as not to swallow the bones; and when we wish to be sure to use the proper fork or spoon for the salad or sherbet, we deliberately stop and choose. What is thus accomplished by the principle of utility is the delegation of as many as possible of the frequently repeated routine activities to semi-automatic mechanisms, and the consequent freedom more effectively to devote the main directive attention to complex deliberation and expression.

The same principle of utility may be discovered in the purpose served by the highest forms of reflective consciousness. Such conscious reflection has made possible within the lifetime of the individual an enormously variable complexity of appropriate responses that, without its aid, would have required — supposing it to be possible for them to have been acquired at all — the sacrifice of countless generations to bring about by the slow and circuitous establishment of the survival of the fittest. The measure of consciousness that accompanies and guides conduct is influential in determining the direction and the efficiency of such conduct. Here a definitely formulated policy, there a deeply felt but imperfectly analyzed conviction, now an unreasonable but decidedly powerful prejudice, and again an irresistible and incomprehensible impulse, — these suggest the range of the motives of conduct, each of which implies a certain manner and distribution of awareness, and each of which also suggests the intellectual rank and the practical mode of working of its type of reflective conduct. Students of human progress recognize in the conscious elaboration of means and measures an increasingly distinctive factor in the civilizing movement of the ages. Much of what we approve and of what we avoid, we now direct by reasons of which we are or may become quite definitely aware, whereas the attitude of

former generations was — as the attitude of the less reflective portions of the community still is — largely a matter of vaguely realized impulse and inclination. Conscious evolution has in these psychological days been properly recognized as coördinate in importance with the other dominant factors of that illuminating conception of the mainsprings of life.

III

CONSCIOUSNESS AND THE NERVOUS SYSTEM

All forms of consciousness occur in intimate dependence upon some mode of working of our nervous system. Of the intrinsic nature of the bond or manner of correlation between some hypothetical activity in the nervous elements and the mental phenomena known by us through consciousness, we know next to nothing. Yet the path of the investigation is by no means blocked; we know many things about the distribution of this correspondence that are distinctly helpful. To begin with, it brings about a unified, coördinated conduct of all parts of the body; that eye and ear and hand and tongue and head and limb shall act in concord. In order that the right hand may know what the left hand is doing there must be some common authority to which the actions of both are reported. The vast army of organized activities, though in a system very different from that of an army of men, may be thought of as combined in groups; and these with complex relations to other groups, no one precisely duplicating the service of any of the others; and each group liable to be combined with others for different

offices; and all under the regulated command of leaders; and the leaders, in turn, of coördinate or subordinate authority to other commanders; and yet all in varying measure under the controlling and paramount directorship of the commander-in-chief. Many, indeed most, of the details of the mental campaign do not come to him for decision; and those of which he does take cognizance reach him indirectly and progressively through well-organized channels; others he ordinarily intrusts to subordinates, but on critical occasions reserves their direction for his personal attention, at times reversing the orders or checking the intentions of his commissioned officers. From the physiological arrangements we know also that the only mode of carrying out the commands, by whatever authority issued, is through the muscles; these alone can transform the impulses into movements. The higher centres cannot directly set muscles into action, but can do so only by influencing those other groups of centres that are specifically organized to discharge along motor routes. It is accordingly, under normal circumstances, through the coöperation of the two that the directive activities reach actual expression in conduct. Further, we know that it is with the most highly developed nerve-centres — with the brain and specifically with the most elaborately organized centres of the brain — that

this directing consciousness is most intimately associated. Conscious activity of the type that we usually have in mind is activity of these choicest products of the evolutionary process, — the gray matter of the cortex of the human brain. While it is thus helpful to bear in mind the dependence of consciousness upon the integrity of this nervous substratum, and to learn as much as we can of the nature of the changes that go on in the nervous system concomitant with varieties of mental experience, it should not be overlooked that we know indefinitely more of the mental experiences than we do of the nervous concomitants. Our knowledge of consciousness remains predominantly and inevitably psychological.

It is hardly necessary to indicate at all extensively the mutual interrelations of brain functions and consciousness; it is sufficient to recall that a blow on the head, or the sudden withdrawal of blood from the brain, as in fainting, or the inhalation of chloroform, bring about so decided an alteration of consciousness as to produce a state of unconsciousness; that a sufficient dose of quinine will induce a singing in the ears; of santonin will affect our color sensations; of alcohol will release the tension of self-restraint and induce the freer flow of sentiment and speech, and, in the more acute stages of its action, result in motor entanglement, in stupor, or in terrifying halluci-

nations; of hasheesh will glorify the mental atmosphere and transport the dreamer to an earthly paradise; of mescal will present luxurious and brilliant artistic pageants; of morphium will bring painless sleep to an overwrought mind and racked body. Bodily ailments, by their involvement of one or another portion of the nervous system, bring with them characteristic changes in the intellectual behavior, such as the over-sensitive irritability of nervous temperaments, or the melancholic tinge that accompanies disorders of the viscera below the diaphragm; and again — though the precise relations in each case remain unknown — quite probably all of our minor fluctuations of mood and impulse, of flow of wit or befogged dullness, of capacity and energy, — the ups and downs of the mental meteorology, — are connected with slight and obscure changes in this wonderfully intricate nervous system of ours. All this is familiar but profoundly significant.

It will be adequate to our present pursuit to notice the variety of distribution of the typical forms of consciousness, and of their correspondences in the nervous centres, by the directive guidance of which the mental and bodily functions are discharged. It may be maintained that those functions have a direct psychological significance that normally possess at least a potential representation in consciousness; and the more habitual

and indispensable the representation, the more completely and intrinsically psychological the activity. Rank in the hierarchy of the nervous centres is largely concomitant with the degree and kind of recognition accorded by the throne of consciousness. The highest rank is held by those offices that require the exclusive attention of an alert consciousness for their proper performance. The intermediate ranks are many, and demand for their execution a variable degree of conscious attention, descending by slight grades to those that ordinarily require none at all, and, indeed, are better off without it. We are not ordinarily conscious of winking, but may become so by directing the attention thereto. We may similarly become aware of our respiration or of the beat of the pulse, but ordinarily are both content and able to exclude these from the field of attention. Such functions possess but a small measure of psychological import; and their investigation belongs in the main to the physiologist. The same holds true of swallowing, coughing, yawning, and of a considerable aggregate of rhythmical, occasional, and irregularly periodic functions that enter into the incidents of life and development. Such functions are described as ministered to by the lower centres, and participate in the normal life of the body with but little demand upon consciousness. Yet of these it is important to note that the

manner of their activity is liable to slight or pronounced modification by reason of the variation of mental and nervous temperaments and conditions. Though normally we receive no report of the uninterrupted beat of the heart and of the rhythm of the respiration, yet the nervous patient may lie awake for hours trying to dismiss from his over-sensitive consciousness the painfully felt stroke of his pulse.[1] The modifications of breathing induced by strong emotions are both outwardly and inwardly observable. When a timid speaker faces his audience, the breaking of the voice, the hesitation of speech, the hurried breathing with occasional gasps or gulps, betray his disquietude, and more painfully to himself than to others. Later, when well under way and absorbed in his task, his breath comes freely and unconsciously. All forms of violent emotion react upon the substrata of consciousness and disturb the even tenor of its ways, and thus participate to make or mar the quality of the performance of higher and lower centres alike. The angry person cannot think clearly, and exhibits his anger in a familiar complex of physiological signs; the lover has a perspective of life that at least in one respect is unshared by others, who witness with mixed emotions the involuntary betrayal of his optimis-

[1] For this enforced inner attention to bodily functions the French have an apt phrase, *S'écouter vivre* — to listen to one's self live.

tic beatitude; the victim of stage fright loses his power of thought and speech, as he becomes distressingly aware that his breath chokes him and that his knees seem strangely insecure; while sudden terror or surprise may momentarily paralyze both thought and muscles, may daze and throw out of function the lowly and habitual as well as the reflective and discerning mental habits.[1] It is true that the connection of disturbances of nerve-centres with such alterations of consciousness as these proves upon close analysis to be somewhat inferential in character; but the grounds of our belief, in spite of ignorance of detail, remain cogent, comprehensive, and consistent.

It has thus been set forth that such functions as occupy a lower rank in the psychological scale, and normally demand but a modest share of awareness, are none the less modified, and that often against the will, under the influence of distinctly psychological occasions. Such occasions bring with them a vague or pronounced awareness of inner disturbance; and it is the distinctive group of sensations thus aroused that in the view of certain psychologists constitutes the essential content of the emotion, which consciousness

[1] It is interesting to note that upon such occasions of sudden shock that momentarily throws all functioning out of control, we resort to a physiological corrective; we take a stimulant to steady the nerves.

reports in psychological terms. Of actions that ordinarily demand a more moderate range of awareness and thus stand intermediate in psychological rank, the familiar motor complexes and intellectual habits furnish sufficient and ready illustrations; such are walking, talking, writing, playing the piano, using a tool, riding a bicycle, playing a game of skill, and the varied range of well-drilled proficiencies. It is but rarely that these descend to the level of blindly automatic actions, yet they are usually performed with diffuse, divided attention. Though their performance involves a variable measure of coöperation of the highest centres, yet their functioning depends specifically upon the integrity of centres intermediate between those whose status is in the main physiological and those that demand the most constant directive and conscious control.[1]

[1] In spite of our limited power to express psychological operations in neurological terms, psychology is eager to profit by the general architectural principles of structure and use which neurology supplies. Mental operations are doubtless not explained or clarified when translated into somewhat hypothetical nervous equivalents; but such interpretation is a useful reminder of the conditioning factors of mental states as of the variety of fluctuating conditions of body and environment, of experience and inheritance, that give meaning and practical value to psychological analyses. It is with this understanding that the reader is asked to accept such expressions as "brain-centres," "systems of neurones," "association tracts," as a convenient and justifiable mode of referring to the more definitely established findings of neurology. There is no other equally terse and concrete mode

They fluctuate not only with the interest, ambition, effort, importance that stimulates to their performance, but also with one's condition and "form." The *optimum* of one's executions commonly demands the coöperation of the two. Of consciously directed work we find illustrations in all that type of orderly thought that requires our best endeavors and our most undisturbed attention: design, invention, composition, reflection, coördination, interpretation, deduction, — these and related operations in the field of original intellectual research and construction represent the functions of the highest type of brain processes, and but rarely proceed to a profitable issue without a decided conscious intent, without the most developed form of deliberate awareness.

It was set forth above that by nature and development human consciousness is a vastly useful endowment; but its very complexity makes it inevitable that undesirable and disturbing forms of its activity should be prevalent. The ideal man might be said to have no forms of awareness but useful ones; but so long as it is human to err, the exhibition of various failings in the manner of our consciousness will remain characteristic of

of indicating the distribution of function within the complexity of our organized life; and though the conception of a "centre" and of what it accomplishes must be kept sufficiently elastic to accommodate itself to the results of widening knowledge, it serves, even in its tentative form, a most helpful purpose.

our psychological make-up. So long as the manner and degree of the conscious direction of our actions may vary, it follows that such direction may be wisely or unwisely, helpfully or disturbingly applied. And, as usual, the deviations from the normal status, particularly under the influence of emotional susceptibility, offer the most ready illustrations of this sensitive equilibrium. The most common of these is the irrelevant interference of the higher centre with the routine activity of the lower. A familiar instance is that of swallowing, in which the attempted direction of the process by a conscious effort is as likely as not to prevent its execution. Those who struggle repeatedly and often unsuccessfully to swallow a pill experience no trouble in swallowing their food. Here it would seem as though the mere presence of the higher dignity disturbs the natural performance of a modest and lowly function, much as the presence of their elders will mar the spontaneity of the play of children. For it is true that, even where consciousness does not so decidedly impede the desired result, it modifies and makes unnatural activities which, when performed unawares, are performed the best. Observe the late-comers at a concert or at church, walking down the aisle, with the eyes of the assemblage upon them, and decide how many of them walk naturally — which means subconsciously — under

these circumstances. If we stop to express this relation in physiological terms, we fall back upon the plausible assumption of a constant flow of impulses from a higher directive to lower executive centres, the variable nature of which determines the tone or reactive tension of the centres immediately concerned in motor response. It is a very natural consequence of the normal and watchful service of these regulative influences that under many circumstances it should require a decided effort to withdraw their action, and thus permit an untrammeled, unsophisticated response of the motor organism. It is difficult to let the arm fall absolutely limp and yield the manipulation of its movements passively to another; or to let one's self fall backward, though assured that we shall be safely caught; or to relax when our excitement is not quite spent; or to walk confidently after slipping; or to disregard the trembling hesitation experienced in crossing a narrow bridge which we know to be quite safe. And the difficulty, whether making itself consciously felt as fear or apprehension, or more vaguely as a sort of nervous instability (for there is always some conscious and unpleasant realization of the disturbing feelings), may be plausibly regarded as expressive of some irregularity in the relations of tension between the higher and lower centres. Such irregularities fall wholly within the normal range of

fluctuation, though they contain explicit suggestions of the more extreme relations of the abnormal.

The most constant tranquilizer of such agitation is mental rest, which means the quiescence of the higher centres, through which the irregularity or extreme action of these tensions is allayed, and the normal relations of things reëstablished. The calming effect of sleep, which may be assisted by a sedative dose, emphasizes the physiological nature of the difficulty. For it is the inability to throw off the "nervous" awareness of inner feelings that constitutes the insomnia, — a condition that may likewise make itself manifest in the twitching of muscles, the restless tapping of fingers or toes, or in the spasmodic start in falling asleep that once more arouses the nervous sleeper. The careful physician, as well as the observant friend, notes a score of these subtle indications of nervous disturbance, — noting also the efforts of the patient to conceal them, — that make their way through the channels of expression, partly involuntarily, partly subconsciously. They tell a story that may be read between the lines — half revealing and half concealing the thoughts that lie within — of worry, or apprehension, or strain, or excitement, or depression ; they tell such a story because of the delicate balance that exists between the centres that plan and feel and the

centres that work and do, and by its transmutation raises the variety of muscular contractions to the dignity and the complexity of human conduct. Such considerations facilitate the appreciation of the intricacy and the nicety of the laying of the groundwork, the warp and woof of the mental texture, and of the elaborate and variable patterns that are woven in the loom of the mind. They make it easier to understand why there should be difficulty in unraveling the threads, or interpreting the design of the mental fabric, or why we must so frequently be content with an appreciation of no more than the general outlines and dominating composition.

Resuming our illustrations, we note how, accordingly, the quality of a performance will vary and take its tone from the mental conditions of its execution. Rivalry excites our latent powers and sharpens the edge of our endeavors; yet the very presence of a considerable stake may act to upset the nicer poise of our exertions through over-anxiety. We can all recall from early or recent days how much easier it was to perform some newly acquired accomplishment when no one was looking, than when the moment of formal exhibition had arrived. There are relatively few players who do quite as well at tournaments and at the critical moments of play as upon less momentous occasions; and the anxiety of the performer makes

itself felt, and complexly, in the report of his own consciousness. Over-guidance by the higher centres thus cripples the efficiency of the work of the lower. The successful coöperation of both demands not only that the lower centres should be allowed to take fairly complete charge of as large a portion of the labor as they can efficiently direct, but that they should do so under a favorable oversight, not a "nervous," or intimidating, or vacillating, or too conscious one. The same holds in the process of acquisition of new facilities; and it is in part because children and young people are burdened with less of this interfering directorship of consciousness that they learn many things more quickly and more skillfully than adults. The adult mind — at least all too commonly — cannot apparently be aware of an activity without a strong tendency to take the affair under its conscious wing, domineeringly to "boss the job." And so it may come to pass that we do successfully in unreflective response to a natural stimulus what we fail to do when we strenuously try to succeed.[1]

To illustrate: —

[1] A similar relation may be observed in the budding of voluntary control in infancy; the child grasps reflexly what it cannot as yet grasp by intent; and the diaries of the infant's growth must carefully distinguish the earlier reactions that appear in response to natural stimuli from the later ones, involving the use of the same muscles, that have become expressive of the execution of a desire.

A young lady in learning to ride the bicycle had reached the stage of proficiency enabling her to ride quite steadily, but still with that intent set of the muscles that indicated a keen and alert inner watchfulness of every sensation and movement. Repeatedly she strove to guide the machine with but one hand on the handle-bar; but as yet without success. When, however, her hair became disarranged, the left hand reached up quite unconcernedly and restored the escaping hairpin to its place; and only then did it flash upon the rider that she was actually doing what she could not do, — which realization brought the hand back to its usual place quite precipitately to regain the disturbed equilibrium.

The second illustration is personal: —

I can readily adjust a certain kind of necktie, which I wear only occasionally, if I do not put my attention upon it, but let the hands follow out their ingrained habits; if, however, I begin to reason which end goes over, and which under, and watch my movements in the mirror, a hopeless failure is the likely issue.

> "The centipede was happy quite,
> Until the toad for fun
> Said: 'Pray which leg comes after which?'
> This wrought his mind to such a pitch,
> He lay distracted in the ditch —
> Considering how to run."

The interference of an over-conscious direction with the free performance of an ingrained activity may be examined at closer range. It is interesting to observe that there do occur mental states in

which there is entire withdrawal of the normal consciousness, and that this results, so far as automatic activities go, in the most precise adjustment of means to end. The sleepwalker, because his highest conscious faculties are entirely cut off from any participation in the process, walks fearlessly along the edge of the parapet; the hypnotized subject will present this and many other accomplishments calling for a nicety of adjustment exceeding that of his normal command. It is because we hesitate that we are lost; and it is the conscious anticipation of failure that takes off the nice edge of our weapons. Where the narrow mean lies between that realization of danger and difficulty that sharpens wit and avoids foolhardy risks and measures, and that over-attention to these that holds back the spur and checks the reins of free activity, there is no formula to inform us. The ignorance that is bliss is not always to be desired; and the wisdom that is not folly is the wisdom of the trained judgment deciding appropriately where consciously to direct and restrain, where to let the natural impulses take their own course. Yet, after all, this is as much a matter of temperament as of anything else; likewise is it a matter of age and experience. The unconsciousness of children, which the grown-up look upon with envy, results obviously from the simplicity of their personal and social consciousness that

places slight restraint upon the free expression of their natural impulses. At a later stage, when comes the knowledge of good and evil, and quite as vitally of the conventionally sanctioned and tabooed, there is developed that painful shyness of early youth, when every movement, gesture, manner, utterance, and impulse is confused and shorn of its purpose in a paralyzing paroxysm of self-consciousness; when, indeed, the native hue of easy resolution is sicklied o'er with the pale cast of thwarting hesitation. In no reaction is the effect of this false distribution of consciousness more manifest than in that delicate psycho-motor adjustment, speech. When this marvelously complex function is efficiently carried on, the highest centres make ready the words that express our thought, and the centres next lower in command direct the word-utterance. Every one is aware of the tendency, when fatigued or excited, to slips of the tongue, to hesitations, and slight mispronunciations. Apart from the habitual stutterer and stammerer, — the special victim of such nervousness, — there are many persons who only on occasions of embarrassment or unpleasant anticipation cannot speak the words trippingly on the tongue; while there are some persistent stutterers who, once well launched in a public address, with their manuscript before them, do not stutter at all. In singing, too, where the channel of utterance is

a different one, and the direction of consciousness is toward tune and musical effect, stuttering is unknown.

The limits of the utility of consciousness as a director of conduct seem thus fairly well defined. Considered broadly, the activities in which consciousness plays the largest part are those that give distinction to the intellectual life; its reflective, centralizing leadership permeates the vast and complex organization of psychic functions. Yet the greatest good of the whole requires equally that the control shall not be relaxed and the direction of affairs left to the unvarying routine of undiscerning subordinates, and that the director shall not insist upon a participation in the work which others should be trained to do, or interfere with efficient service by an intimidating or distrustful oversight of the performance of his subordinates. It is not advantageous to be a mere bundle of habits; but it is a real advantage to have them and to use them.

IV

CONSCIOUSNESS AND VOLITION

In the psychologist's analysis, the two central attitudes towards a given task thus appear as the manner of awareness which the planning and execution of the task bring with it, and again the degree of control that is exercised in its consummation. We have passed in review the distinctive varieties of such awareness and of its influence in shaping conduct; we must now consider with like motive the status of such thought and behavior from the point of view of the directive guidance of intent control. We begin by asking what relation is embodied in our nervous system between the conscious and the voluntary, including therein the relation of the more or less subconscious to the more or less involuntary. The central principle involved is that we can direct activity only in so far as we are sensible of its results, that all doing is guided by feeling; that, for instance, we should not be able even to stand, had we not a constant influx of regulative sensations in the contact of the feet with the floor and in the positions of limbs and muscles, that determine the manner of maintaining our equilibrium.

It is because we have no sensation connected with the narrowing of the pupil in exposing the eye to light, that we are wholly unable to contract the pupil at will; we do not even know how to set out to try to do it. That which is wholly unconscious is necessarily involuntary. The opposite is, of course, not true; actions that are involuntary — or, as we should be able to say, subvoluntary — may be, and indeed are likely to be accompanied by a more or less distinct awareness of their performance. That is, while we do not consciously initiate these groups of movements, but find them taking place in us in response to natural stimuli, yet in and at the close of their performance we have a fairly definite consciousness of the nature of the activity. Thus we ordinarily wink involuntarily, but can wink at will; we ordinarily breathe involuntarily, but can take a deep breath or hold the breath; and this we can do because the winking and the breathing may be held up in consciousness, and the sensation thus experienced be made the starting-point of an impulse to repeat the action. Not that the performance is quite the same in the two cases; the stage cough and the stage yawn and the stage laugh are as a rule distinguishable from those that result from a real irritation and a real drowsiness and a real mirth. What we observe is that the vestige left in consciousness by the performed

action, though ordinarily performed without willing it, serves as the handle by which the will is enabled to take hold and reproduce the same action. It would thus seem to follow that no activity that leaves some trace of its performance behind it is strictly and wholly removed from the possible control of the will. Normally, the limits of such possibility, though not rigidly set, are yet fairly definitely established. Although we can recall with a moderate loss of vividness the sensations accompanying blushing, we cannot blush at will; yet there are some exceptional persons who can do this; and if for blushing we substitute the action of the tear glands, the proportion of those who can command the service of these solicitors of sympathy in the absence of a proper exciting emotion would be appreciably increased. But in extreme and abnormal organizations these limits will be still farther removed towards the apparently involuntary, embracing in the annals of hypnotism records that severely tax belief. Yet the normal remoteness from voluntary control of these responses to organic stimuli is recognized as a trait of our nervous endowment, as is also the measure of sensational and emotional awareness which follows in their wake.[1]

[1] It is perhaps worthy of note that such a primitive reflex as sneezing requires its genuine stimulus, and has likewise no emotional status. What the actor imitates are rather the by-products

It may be well to recall another type of subconscious habit that illustrates somewhat differently this relation of the partially-felt to the partially-willed. Almost every one has certain tricks of manner of which he is anxious to break himself. Assuming that he makes an honest effort to do so, a part of the difficulty lies in the fact that the habit is growing by frequent use, without offering a fair chance at its correction, because one remains so nearly unaware of the lapses as they occur. We bring ourselves up with a sharp turn every now and then, to find that we have been wrinkling the forehead, or holding ourselves stoop-shouldered, or putting the hands in the pockets, or biting the finger-nails, or toying with a watch-chain or bunch of keys, or doing this, that, or the other, in spite of our repeated resolutions not to lapse into these habits. The first step in the correction of such habits is to form the habit of becoming conscious of the habit; and in that our friends frequently offer a reminding assistance. This, then, is the complementary type

of the sneeze than the intrinsic reflex itself. To have the pupil contract, we must turn the eyes to the light, and likewise may we deliberately gaze towards the sun to excite (by some peculiar trick of our nervous system) the irritation that seeks relief in a sneeze. Yet the latter reveals its closer affinity to reflexes that have a tinge of control, in that we can voluntarily coöperate to check or to facilitate the reaction, which we cannot do in the case of the contracting pupil.

of action which has become so entirely involuntary that its performance is all but lost to consciousness.

The slight participation of consciousness in the routine of habit appears also in the inability to recall the nature of habits to which our subconscious selves are really subject. Most of us have quite fixed habits as to which stocking we put on first, which arm goes first into its sleeve, which thumb we put above and which below in clasping the hands together, which foot we place on the first tread in starting to go upstairs, which lap of the collar goes over and which under, what are the positions of the fingers in buttoning a button, what is the sequence of movements in brushing the teeth, how we extinguish a match, and so on; and yet we cannot tell, when the question is sprung upon us, what is our habit. When we try to recall how we do these various things, we aim to recall, or even actually to rehearse, the several feelings and positions of the hands or arms or legs in the occupations referred to, with the attention directed — an unusual attitude — to the details of the habit. The habit seems to reside in the fingers, — really, of course, in the nerve-centres that guide the fingers, — so that the presentation to them of the accustomed stimuli at once produces the accustomed reaction. In this way we subconsciously observe and remember and

respond to a host of things. We know for the various doors of our house where to reach for the knob, whether high or low, to the left or right, to turn the knob or raise the latch, to pull or push, vigorously or gently. By the same token the knitter's hands feel for her the proper stimuli to keep the needles flying. These guiding sensations are necessary to the cerebral direction of the performance; and if they were to disappear, the knitting would cease. They serve as the connecting bond between the actually subconscious and the potentially conscious. Note, however, that should the subconscious habit fail for any reason, then consciousness becomes aroused. If the knitter should drop a stitch, she is likely to become aware of it and to assume a conscious attitude for a time towards her occupation. Similarly, if the door-knob had been shifted since your last visit, you would be apt to notice something unusual in the arrangement; and if you happen to put the wrong foot first into the stocking or the unusual arm first into the sleeve, you feel that the operation is awkward. The long persistence, in spite of disuse, of such subconscious associations is indeed remarkable, and appears in such instances as that recorded by Miss Cobbe, who, on sitting down to write in a room where eight years before she had been accustomed to read and study, became aware that her feet were moving restlessly under

the table; she was then able to recall that she had always used a footstool at this table, and it was this the feet were seeking. Professor Münsterberg has subjected such tendencies to an experimental test. Having the habit of dipping his pen into an inkstand on the left side of his desk, he placed a second and exactly similar inkstand also on the right side; and after becoming thoroughly accustomed to the sight of the two, and when the dipping of the pen had become as mechanical as ever, he kept the inkwell on the right side filled and that on the left empty, and counted how often he caught himself dipping or starting to dip the pen into the unfilled inkstand. When the new habit was formed, the arrangement was again changed. The falling away of the discarded impulse goes on quite rapidly, decreasing in the first transfer of position from twenty-five false movements on the first day to practically no errors at the end of a week. Whether the false movement was carried to completion and the pen actually dipped into the empty inkwell, or whether the hand approached the wrong side and checked itself *en route*, seemed to depend upon the degree of concentration which at that moment the writing demanded. Similar results were obtained by changing the pocket in which the watch was carried, or by locking the door of the room that was usually used for exit and forming the habit of

going out through another door. It would thus appear that habits may be in part rescued from the subconscious, consciously trained, and readopted by the subconscious self; and the evidence suggests that the subconscious paths of sensory and motor association are formed under much the same influences as condition those of conscious acquisition. We all have the opportunity of corroborating these results in observing how strongly or how little we persist in writing the old year date after each first of January; yet in a short time the new habit is in command and the old one dismissed.

Clearly, then, the fertile field for the illustration of such subconscious operations is that large intermediate one between those simple bodily functions acquired in the earliest period of life, and those most difficult and variable occupations that to the end demand our careful and painstaking attention, — that is, the field of well-drilled habits, of semi-automatic groups of movement, of the customary common activities that make up the great mass of the familiar but intelligent routine. And first, the varying participation of consciousness in the successive stages of acquisition attracts notice. The principle involved is easily formulated. At the outset each step of the performance is separately and distinctly the object of attention and effort; and as practice proceeds and expert-

ness is gained, the attention is suitably apportioned over the whole of the group of processes, the separate portions thereof becoming fused into larger units, which in turn make a constantly diminishing demand upon consciousness.[1]

Walking, talking, writing, dressing, drawing, sewing, using a typewriter, playing upon a piano or violin, riding a bicycle, handling a tool, a tennis racquet, or a golf club — may all serve as illustrations of the path of progress of such acquisitions, involving various and variously complex coördinations of mental, sensory, and motor factors. In each case the several parts of the acquisition must be repeatedly introduced to consciousness and held in the focus of attention, until both senses and muscles appreciate their respective tasks. It will also not escape observation that as

[1] This fusion of the several portions of a task into a unified action is a most essential part of the acquisition. So long as each process is undertaken as a separate tax upon the memory, the attention is divided, say, between what the right hand and what the left is doing; when the two are fused, there is a single but more complex feeling of a common activity of a right-and-left-hand type. A deliberate attempt to secure this single unit-feeling in connection with acquiring complex functions is of aid. It is, for instance, easy and natural to swing the arm and leg in a circle in the same direction; but to swing the leg clockwise, and the arm (of the same side) counter-clockwise is difficult, as that runs counter to the acquired trend of coördination of arm and leg. It is an aid in such acquisition to get the conscious feeling of innervation and movement of the two as inspired and comprehended in a common impulse.

the habit or accomplishment is acquired, the effort involved diminishes, the skill — that is, the nicety of adjustment of impulse to the desired achievement, and the avoidance of unnecessary or round-about exertion — increases, and facility becomes an expression of the decreasing demand upon a directive attention. We can then do things well not only without half attending, but also without half trying.

If you desire a first-hand experience with these relations, it may be gained objectively by observing a child at its first lessons on the piano, or by watching your own progress in learning to use the typewriter. The several acts in the drama of such acquisition will show, first, the deliberate finding of each note or letter on the page, and then a change of attention to the corresponding key on the keyboard; then a somewhat greater facility at each of these steps, and a gradually established ability to spread the attention more nearly equitably over page and hands; then the acquisition of more complex coördinations, or sequences, the simpler ones now going of themselves and the main attention focused upon the less familiar and more intricate adjustments, while the consciousness begins to take in larger and larger units, each requiring only a single initial impulse; until at length eyes and fingers seem to guide themselves, and the attention may be directed partly to extra-

neous matters, while the performance proceeds undisturbed. At that stage such a description as the following becomes apposite:—

"Two different lines of hieroglyphics have to be read at once, and the right hand has to be guided to attend to one of them, the left to another. All the ten fingers have the work assigned as quickly as they can move. The mind, or something which does duty as mind, interprets scores of A sharps and B flats and C naturals into black ivory keys and white ones, crotchets and quavers and demi-semiquavers, rests, and all the mysteries of music. The feet are not idle, but have something to do with the pedals. . . . And all this time the performer, the *conscious* performer, is in a seventh heaven of artistic rapture at the results of all this tremendous business, or perchance lost in a flirtation with the individual who turns the leaves of the music-book, and is justly persuaded she is giving him the whole of her soul."— Miss Cobbe.

Still more remarkable, as showing the extent to which such distribution of consciousness may be carried in regard to two complicated and wholly unrelated tasks, is the classic instance of Houdin, the French prestidigitateur. In order to quicken his senses and increase his manual skill, he practiced juggling with balls; and "having after a month's practice become thorough master of the art of keeping up *four* balls at once, he placed a book before him, and, while the balls were in the

air, accustomed himself to read without hesitation." And, as evidence of the tenacity of such acquisitions, he relates that after thirty years, with practically no intervening practice, he found himself able to read while keeping *three* balls going.

Returning to the more ordinary habit-acquisitions, we have further to note that when, after a variable period of training, they reach a subconscious (and subvoluntary) stage, they require merely the initial start, or the familiar succession of slight stimuli, to run themselves off the reel. The most convincing illustrations of such automatic execution are those in which the higher centres are thrown *hors de combat*, and yet the actions go on as well as usual. The somnambulist directs his steps accurately; the somniloquist utters words and sentences; more rarely — because writing does not become as automatic as walking or talking — persons have been known to get up and write in their sleep. But every one may observe the same type of automatism; it occurs in the experience, when engaged in a protracted copying from a book, of suddenly arousing one's self from a state of distracted inattention, during which, however, the writing has been going on as accurately as usual, yet without appreciation of the sense or even of the appearance of the text. Such is subconscious copying.

Another parallel experience is that of initiating a process that has one habitual set of sequences, but one that may be performed without the intention of proceeding to the others, and then finding that the whole of the routine performance has taken place while one has been vaguely conscious and not at all desirous of the result. The average man will find himself winding his watch — a task usually reserved for the retiring hour — while changing his waistcoat in dressing; and the unusual man may actually find himself in bed before realizing that it was his intention to dress for dinner, — and that, merely because the watch-winding reaction set off the whole train of automatic movements associated with the nocturnal performance of that process; and did so without intruding itself upon the otherwise occupied attention. Such is subconscious undressing.

The common underlying condition of these automatic, subvoluntary activities is a shunting out of gear of the ordinary forms of wakeful alertness, or briefly, a state of distraction. Not that the distraction need be very marked; it merely requires that one set of activities shall be in the direct field of attention while another and more automatic group lies in the indirect field. It is because these automatic, routine performances do not require, and accordingly do not receive, any large share of attention that it becomes possible

to bestow the better half of one's consciousness upon one task and distractedly attend to the other. In eating we naturally and purposely devote but an occasional and indirect type of attention to the food and its manipulations. The social embellishment of dining as a function is an outgrowth of the sentiment that paves the way for the subconscious attitude towards the material side of the repast. I could cite the case of a well-known philosopher, whose wife found it necessary to inform him when he had had his three cups of tea, — his rigid limit. I could mention the name of a physiologist, equally well known, who, on one occasion at least, went to bed thinking that he had dined, when really he had not. We are all acquainted with persons who mechanically eat what is set before them, continuing so long as the food on the plate suggests the repetition of the knife-and-fork reaction, and who are quite unable to give an account of what or how much they have eaten. What is to be noted in these composite instances is not mainly the absence of dependable subjective sensations that may serve as hooks for the memory to attach itself, but the normal subconscious execution of habitual activities, the initiative and the completion of which alike leave so slight a trace in the memory that we cannot say whether we have performed them or not. A typical instance is that of mislaying an object in

habitual use. Very probably the lost article was handled in such a condition of minor distraction. You try to recall when and where you last saw it or used it; its normal place is on the study table. Was it there last evening when you put out the lights? You cannot say. Frequently you are confident that it was, when unimpeachable circumstantial evidence proves your confidence misplaced. Your automatic habits have set off a train of movements without informing your consciousness of the fact. In taking off eyeglasses or rings, preparatory to washing face and hands, one may have inconveniently failed to have formed any definite habit of bestowing them in a constant place; and in that event one's conscious self will have frequent occasion to follow the trail of the subconscious in a desperate search to recover the transient resting-place of these articles. Thus does the subconscious prepare the way for illusions of memory and cast suspicion upon the most confident verdict of our conscious selves. Actions may be omitted that we had intended to do, and ordinarily would have habitually done, and consciousness remains unaware of their omission; actions may be performed and consciousness take no part in their initiative, even remaining ignorant of their performance when completed. Without being in any way abnormal, we do many things, and indicate that we see, hear, or feel

things, and yet are we so subconscious of these incidents that, so far as we rely upon the testimony of memory under the searching examination of our attentive consciousness, we should unreservedly deny that these experiences and these doings were indeed ours.

V

THE DISTRIBUTION OF ATTENTION

This range of illustrations sets forth that in respect to the apportionment of conscious attention all states are more or less concentrated and more or less diffused; upon the mental stage the light is focused more strongly upon one part of the setting and illuminates another but dimly and uncertainly. The field of consciousness is always more or less contracted; and not alone in the centre near the footlights, but farther back where the "asides" are spoken, do significant incidents occur. The concentration of the high lights upon one area intensifies the dusk of the rest of the stage; and profound concentration paves the way for pronounced distraction. With many persons such intent absorption in one occupation and absent-mindedness to all other, and particularly to the commonplace affairs of life, is temperamental; and the fully ripened fruit of such tendencies may be sampled by shaking the tree of traditional tales of absent-mindedness. These illustrate the degree to which abstraction may obscure the background of consciousness and tolerate the performance of irrelevant reactions without arousing the correc-

tive interference of the central consciousness, and have for the most part been recorded for the interest or amusement inherent in their recital. They are well worthy of a more specific consideration with reference to the psychological principles which they illustrate; and with this end, a survey of such lapses of consciousness will occupy one of the succeeding sections. For the present it will be sufficient to appreciate the status of absent-mindedness in terms of the fluctuation of the attention, of which it is an incidental product and symbol.

Absent-mindedness, in conformity with the general scheme of subconscious activities, will bring about a sensory inattentiveness to a portion of the possible field: and so, impressions that would ordinarily easily penetrate into the conscious area sufficiently to be responded to, remain unperceived; and again, actions are performed, and yet render no account of themselves to consciousness, or are mistakenly performed without awareness of the confusion. The contraction of the sensory field is a frequent type. Every student has become so absorbed in his work as to have missed the sound of the dinner bell or some equally imperative summons; the traveler becomes lost in the latest novel and rides by his station; the football player, in the intense interest in the game, does not feel the bumps and bruises; and from Archimedes of old, absorbed in his mathemati-

cal problems during the taking of Syracuse, to Hegel's completion of a metaphysical treatise on the day of the battle of Jena, or to the modern physiologist who forgets a violent toothache during the period of his lecture, we have the same illustrations of the intense focusing on a narrow area, shutting out from consciousness impressions that would ordinarily readily gain admittance. The difficulty of posting letters, or attending to the commissions that are intrusted to us, when once we become absorbed in the day's occupations, shows how readily what, at one moment, is carefully fixed upon the charge of the attention, becomes lost in the background when other urgent claimants displace it. The mechanical performance of a task that leaves no record of its execution because at the time the attention is largely elsewhere, transfers the same relation to the motor field; and the typical confusions of unrelated activities, and the innocent and inadvertent disregard of conventionalities, make up the rest of the catalogue of the traits of absent-mindedness, all of them variously illustrative of the subconscious direction of conduct. Naturally these several factors do not remain unrelated, but combine to compose the more extreme instances of distraction, which likewise involve so pronounced and temperamental a degree of absorption as to place them in a quasi-abnormal class.

The transient narrowing of the field of consciousness conditioned by a dominant absorbing occupation may be outwardly directed, — as occurs when, in the fascination of a play or a street-pageant, the pickpocket finds favorable occasion to ply his trade without arousing suspicion, — or more typically inwardly, when occupied with one's own thoughts. Such contraction of the attention by no means presents a single or simple state. The absorbed student, if of such disposition, may become blind, deaf, and insensitive to all but his central occupation; on the other hand, one anxiously awaiting a given appearance — such is the convinced witness of the materializations of the spiritualistic séance — may project his fancies objectively, or misconstrue what is actually present to the resemblance of his inner anticipation, while consistently unobservant of all that might antagonize or discredit his prejudiced expectation. Or again, one may be fatigued, sleepy, preoccupied, apathetic, and so react to his environment with less alertness, — as though the general illumination of the mental field were dimmer than usual. Still further, the very fact that one is aiming to distribute his energies over too large a field, or that their exercise is accompanied by unusual excitement, may necessitate a neglect of some parts thereof, which with less strenuous attention would have received adequate notice. The

absent-minded type of maladjustment may be connected with each of these conditions and their several varieties, but commonly requires that some factor of the whole falls short of, without being wholly deprived of its share of normal awareness and control; it exhibits the result of such neglect in a lapse or failing, trivial, it may be, but significant. The frequency and familiarity of such lapses make them the best known illustrations of what happens when the normal distribution of the attention is slightly or appreciably diverged from, and intrusions from the dim subconscious areas enter, at times to make, not infrequently to mar, the even tenor of our mental ways.

Let me then suggest by partly fictitious, yet realistically derived instances the range of such absent-minded doings corroborative of the status just assigned to them.

There is the unintentional, and, for a time, unaware winding of your watch in changing your waistcoat; or the surprise, when in proper course of events you proceed to wind your watch, to find it already wound by your otherwise occupied self; or the distracted taking up of a silver dollar or a pill-box and trying to perform the watch-winding reaction upon it; or the casual handling of the watch with the intent to wind it, but owing to other solicitations of your attention, the putting it aside with a feeling that it has been wound when it has not; or, in handling your watch simultaneously with your purse, the placing of the purse

under the pillow and of the watch in the bureau-drawer; or, momentarily oblivious that your own stem-winding watch is at the jeweler's, and that the one that he has loaned you in its place winds with a key, the attempt to wind it by the stem, perhaps with an instant's suspicion that the mainspring has broken; or, your own being an open-faced watch and the substitute one with a closed case, the discovery of yourself staring at the outer case trying to puzzle out the time; or, though for the past months or years you have been placing your watch under the pillow, the sporadic reassertion of the still older but discarded habit of hanging it in your waistcoat pocket over a chair; or, when asked the time just after consulting your time-piece, the inability to tell, though your glimpse of the watch-face satisfied your own curiosity; or, in dressing in the morning, with your thoughts far afield, the appropriation of your room-mate's watch instead of your own; or, your eye caught by the sight of his, the attempt to wear his in addition to your own; or the abstracted search for your watch while holding it in your hand; or, on a day of special excitement or hurry, the going off without your watch; or, to cap the series, the sudden suspicion that you have forgotten it, followed by an anxious exploration of all your pockets, the failure to detect it, and yet, a moment later, the consultation thereof to see whether you have time to go back and get it.

Throughout these tableaux of distracted poses, the mental status can be only partially, sometimes hardly at all gauged by the nature of the slip or

maladjustment, but requires to be interpreted in reference to the scattered or concentrated phase of attention to which the lapse was due. The subjective account in terms of disposition, habit, experience, condition, outward and inward occupation, intention, and awareness, is needed to give the local color to the outline sketch; when that is done, the incident stands as a picture, telling its own story; and the story thus told takes its place in the chapters that recount the standard relations between awareness and action, between awareness and the perception of a situation, between awareness and the interpretation that intervenes to give meaning to the action of the performers. Whether these incidents give rise to little comedies of errors, or exhibit the successful staging of the scenes under the clever management of the subconscious understudies, they show with equal aptness how the fluctuating distribution of parts by the directing attention modifies the effect of the plot and movement of the psychological drama.

Turning our attention to the concentrated attitudes of voluntary attention, we may first contrast them with the diffuse state of the versatile pianist who plays and yet takes part in the conversation; or of the hostess observing the progress of her dinner, that this guest is being amused and another bored, what she is saying to her neigh-

bor and what he is saying to her, and between her words an occasional nod to a servant or a studied glance of another's costume, together with the diverse undercurrents of things to be remembered and attended to in due sequence, as the evening advances. The highest use of our powers, the nicest adjustment of our skill, requires the undisturbed concentration of attention upon one single task. A billiard player or a chess player, a whist player or a tennis player, is apt to fall off in the skill of his play, if he talks or attends to other trifles even during the breathing-spells between moments of action. We can keep ourselves occupied with routine business by the hour and easily pass from one thing to another, and at the end not feel particularly fatigued. But careful thought requiring complex correlations of facts and principles, original work that depends upon seeing unusual relations truly and clearly, — these demand absolute freedom from disturbance or distraction. It is then that we shut ourselves up in a room and require long periods of close absorption, far from the madding crowd of other solicitations. It is interesting to observe that in such cases, even the automatic movements that demand but little attention are apt to fall away. It is when he becomes particularly absorbed that the writer lets his pipe go out; it is when they come to a particularly exciting part of their discourse that two compan-

ions, talking as they stroll, stop, apparently unable to talk and walk at the same time. The typical attitude of close attention is one of inhibited motion, — the rigid posture of limbs, the set stare of the eye, the holding of the breath, the diminution of all function, however involuntary, to a minimum. That such intense states of concentration cannot be maintained for long periods without inducing excessive fatigue, we know very well; and likewise, that it is just this element of concentration that distinguishes our lighter from our more intense occupations, and in the end makes the important difference between work and play and mere occupation for the sake of being occupied.

For the comprehension of the more independent manifestations of subconscious activity, the appreciation of the variations in concentration and diffusion of ordinary states of the attention is directly significant. The normal average status represents a rather wide range of alertness, in which many different and unrelated applicants for attention have all a fair chance to gain a hearing; as a rule, our minds are moderately occupied and moderately vacant, neither wholly absorbed nor wholly free. At the breakfast-table a glance at the headlines of the newspaper, the opening of an egg, the answer to a question, the overhearing of the conversation of others, appreciation of the hour and the possible need for haste, the disap-

pointment that the sky is again threatening, — all receive their share of attention easily, without serious disturbance to the others. After hours of mental labor, we seek recreation in a walk, yielding gladly to the diverse and non-strenuous invitations to our attention offered by the roadside and the life of nature; or for more protracted recuperation from overwork, we embrace or resign ourselves to the life of a week at sea, enjoying its monotony, its lack of appeal to our wearied attention, and filling the gaps of our accustomed business with much eating and sleeping, with the small talk of new acquaintances, or a dilettante interest in things nautical. To many the very absence of the usual activities of the attention proves wearing, and the type of conscious experience which we call *ennui* or boredom sets in. To relieve it, we make occasions of interest out of trifles; and the passing of a steamer, the play of a school of porpoises, creates quite a flurry of excitement in the unoccupied and eager waste of the attention. The very attention to the absence of interesting occupation increases the sense of weariness, and expands the hour of waiting at a desolate railway station into a seemingly interminable period; and we are as familiarly acquainted with the rapid passage of time when we are thoroughly engrossed in our task. Thus between the states of sharpest concentration — like the brilliant circle of the sun

setting amid dark clouds — and the most evenly dispersed attention — like the noon-light of an overcast sky — there are all shades and grades of distribution, all manners and variations in the chiaroscuro of the mental illumination. In regard to automatic activities, the special principle to be emphasized is that the field of the subconscious is the darkened area that comes with the high lights; these furnish the conditions for its most characteristic manifestations, while the diffuse illumination of the ordinary widely alert attentive states offers the least favorable conditions for its unobserved entrance upon the field. Thus noting negatively the character of the conditions unfavorable to subconscious activity, — the general mental alertness in which orientation and adaptation to the mildly complex and variable environment take place easily and naturally, in which the attention is ready to shift towards any newcomer, — we shall for the most part be considering the concentrated forms of attention from normal to abnormal, in the margins of which the subconscious disports itself, but partly known or wholly unknown to the occupants of the focal field.

A pertinent test of the degree of concentration is the sensitiveness to disturbance. We are readily aroused from mildly absorbing occupations, and do not resent the interruption so seriously; on the other hand, it may require a more repeated or

more urgent demand to arouse us from a more intense occupation, though when once a disturbance breaks in upon an exacting task, it is the more likely to sidetrack the train of ideas. The alighting of a fly, remarks Pascal, will disturb the most profound thoughts of genius. Allied to this is the psychology of the practice indulged in to upset the poise of the performer, which in youthful parlance is known as "rattling." The practice rests upon the known difficulty of accomplishing one's best during distraction, and the consequent supplying of the distraction by the enthusiastic opposition. And yet it is just at this point that the temperamental or individual factor in the equation assumes its greatest value. The susceptibility to disturbance is as variable a factor as any in the psychology of our individual differences; and what disturbs one leaves another untouched. But more especially do we differ in that A. performs almost everything that he undertakes with a degree of concentration that easily shuts out the outer world; while B. is always moderately alert, always close to the call of any sudden appeal to the attention. A. sits down at the camp stove, with a novel in one hand, and is to stir with the other the contents of the pot; after due lapse of time the novel is read, but the stew is burned; to B. this would have been a highly improbable incident. He who does a few absent-minded things is

apt to do many of them, to fall naturally into the lost-in-thought attitude of inner contemplation; for distraitness is his mental habit. The importance of this relation will appear in the sequel, and prepares us to find that the more extreme and abnormal manifestations of the subconscious will depend more intrinsically upon the operation of a favorable temperament than upon any objective inducement, such as an engrossing occupation. Unusual activities of the subconscious will, in the main, occur only in unusual mental constitutions; normally, the emergence of a fairly independent piece of subconscious functioning depends upon a moderate variation from the standard illumination of conscious attention, — just the darkening of a passing cloud; abnormally, in favorable cases, the measure of its independence is decidedly emphasized and its more notable and impressive performances made possible. Yet throughout, the phenomena present consistent relations; the several factors that determine the result vary constantly and puzzlingly, and none more so than the individual temperament, the dominant integer in the personal equation.[1]

[1] In this respect the mental states of children are interesting. Children enter into their occupations with a decided intentness and an emotional vivacity that bury them deep in the reality of their play; and they are likewise free from any considerable range of acknowledged claims to their attention. They accordingly furnish favorable opportunities for subconscious activity. At the

same time the relative feebleness of their attention and the weakness of their habits militate against any very promising field for the exhibition of such subconscious traits. In actual observation the effect of both these tendencies may be readily observed. Children, if undisturbed, become absorbed in play and are most oblivious of what is going on about them, giving themselves singly and intensely to their play-fancies, forgetting their troubles, and occasionally falling into amusing lapses that exhibit the subconscious activities in formation. On the other hand, they weary quickly, require constant change of occupation, and welcome distraction if it be offered.

VI

THE MECHANISM OF CONSCIOUSNESS

At this juncture it becomes necessary to turn back for a nearer view of the relations that obtain among the distinctive types of consciousness. The inward awareness, which we readily distinguished from that determined by the solicitors of our attention in the outer world of objective things and happenings, was observed to include, within the field of its operations, the various sensations that arise from the obscure organic functions that go on within the body. It is only for formal purposes that we classify with these that other type of inward awareness by means of which we enter the world of mind. This is an awareness of our own memory-images, perceptions of relation, comparisons, thoughts, ideas, inferences, imaginings; and again of our impulses, struggles, desires, resolves; and still further, mingled with all these and giving color to the whole, of our longings, interests, hopes, fears, ambitions, aversions, likes, virtues, and shortcomings. This form of awareness — that pervades the busy forum of the inner life — itself becomes the introspective equipment of greatest service to the psycho-

logist in the pursuit of his science; and these several terms receive their significance and yield to analysis in so far as our introspection enables us to discover their nature and relations. And further, as will be considered in due course, there results from all this elaborate internal life, and is complexly organized upon the basis of all these forms of awareness, a consciousness *sui generis*, a consciousness of self, of a personal ego in its relations to its own past and to the object-world with which it holds commerce, and in its social responses to similar consciousness in other selves. Our immediate concern lies with the service that subconscious processes perform in the flow of logically associated ideas, in all the several complex activities incident to connected, more or less reflective thinking.

In considering at close range the apportionment of the affairs of the mental life to the subconscious and the conscious participants, it becomes clear that some sort of selective process goes on, implying naturally that there is at command a collection of material from among which the selection is made. How far is the selection and the accumulation of material conscious, how far the result of processes lying so far below the surface that introspection fails to reveal them? Ordinarily I take cognizance of such of my surroundings as hold my interest or require my

attention; but I do not observe a minute fraction of the total range of possible applicants for my regard. Clearly, in purposeful occupation, attention is no mere idle inquisitiveness, skipping from one thing to another, but a moderately consistent, regulated force. It is commonly maintained, and for our present purposes with sufficient accuracy, that the underlying interest determines what we observe and what we neglect. The nurse, awakening to the slightest sign of restlessness in her patient, but sleeping quietly through other noises, is a ready example of the fact that even in sleep the selective action of attention goes on. It goes on as well negatively as positively, excluding and admitting impressions upon the same fairly consistent principle. When we read for pleasure we are not likely to notice misprints; when we read proof we fail as a rule to appreciate the full literary value of the text. I concentrate my thoughts by deliberately shutting out of my consciousness whole areas of possible experience; yet whether or not I succeed at a desired moment in so concentrating my attention depends upon rather complex circumstances, the most significant of which will in due course be set forth.

What is particularly pertinent at present is that some consent, some inclination of the attention toward the admission of the candidate for notice, is the usual condition of his acceptance. Such

inclination is not wholly within our own determination, though more so in the field of sensation than in that of reflection. Admittedly we do not wholly control what we shall see, nor what we shall think; yet the factor of consenting inclination is present and characteristic in a large range of normal applications of the attention. Unusually violent claimants for notice break through my absorption, and do so against my explicit desires and resolution; though frequently, intruders are in turn as promptly ejected as admitted. And changing with the hour and the mood, my mind at times drifts restlessly to every fresh solicitation, and will not bend to serious work, where desire lies; while again under other skies I am able to be conveniently not at home to all applicants that attempt to intrude upon my busy privacy. So also does use determine in some measure the range of attention. The resident of the city fails to hear the noises that disturb the rural visitor; and the quiet of the country, or the unaccustomed murmurings of field or woods or seashore, disturb the sleep of the city-bred. Whether or not an impression will be attended to will thus depend upon the interest in it, or upon any other point of vantage which it commands. A tap at the window may pass unheeded, but not if it be a lover's signal; the buzzing of a fly in the room will disturb one person's sleep, while the rattling of a

shutter or the creaking of a door will produce insomnia in another. Each is quite undisturbed by what disturbs the other. Noises remain the classic example of such selection in the field of sensory attention because the ear, above all other senses, has had to get its training in that way. We keep away from disagreeable odors, we refuse unpalatable food, we do not touch things the handling of which we dislike, we shut our eyes to the things we wish to ignore; but we are often compelled to remain within earshot of unwelcome or disturbing sounds, and cannot muffle the ears. Selective attention must accomplish this for us. We learn to endure what cannot be cured by learning to shut it out of our auditory consciousness. An analogous, but far more complex and less easily determinable state of affairs obtains in regard to the selective processes of thinking.

The analogy brought forward by Mr. Galton of a chamber of consciousness and of an antechamber presents an instructive mode of viewing what goes on in efficient thinking. He says: —

"There seems to be a presence-chamber in my mind where full consciousness holds court, and where two or three ideas are at the same time in audience, and an antechamber full of more or less allied ideas, which is situated just beyond the full ken of consciousness. Out of this antechamber the ideas most nearly allied to those in the presence-

chamber appear to be summoned in a mechanically logical way, and to have their turn of audience. . . . The exclusion of alien ideas is accompanied by a sense of effort. . . . The character of this effort seems to me chiefly to lie in bringing the contents of the antechamber more nearly within the ken of consciousness, which then takes more comprehensive note of all its contents, and compels the logical faculty to test them *seriatim* before selecting the fittest for a summons to the presence-chamber." And further: "The thronging of the antechamber is, I am convinced, altogether beyond my control; if the ideas do not appear, I cannot create them, nor compel them to come."

This simile sets forth that progressive thinking is an intentional ordering of a vast, but only potentially available collection of loosely assimilated material. Successful mining requires that the deposits shall be really there, and equally that the means of bringing them to the surface and of extracting the ore shall be efficient. As a rule there must be both conscious effort and subconscious facilitation, — the latter a factor that yields uncertainly to direct summons.

The attempt to recover the means by which we advance in the mazes of our mental excursions is thus beset with the characteristic introspective difficulty, that of observing the machinery of thought while maintaining its natural sequence. Much as we may like to do so, we cannot compel

the eyes to look at the surface of the mirror and at the objects reflected therein, in the same glance. The normal interest is in the result, and the power to observe the process is one not readily developed, — and this for the reason with which we have become familiar, that ordinarily it would be a hindering rather than a helpful attitude. Yet here, as in all varieties of endeavor, expertness may be cultivated, and brings its worthy rewards. Without maintaining that the extremely variable, even discordant descriptions recorded by inventors, artists, composers, authors, and others in regard to the genius of their several pursuits, at all supply what the psychologist is interested in discovering, it may none the less be profitable to consider one such account — that of Robert Louis Stevenson — for the suggestiveness of the matter which it so attractively presents. It pleases this master of imaginative construction to speak of the moments of inspiration as coming to him in dreams, — waking as well as sleeping dreams, we may assume, — and the subconscious contributors to his inventions are made to appear as Brownies.

"This dreamer (like many other persons) has encountered some trifling vicissitudes of fortune. When the bank begins to send letters and the butcher to linger at the back gate, he sets to belaboring his brains after a story, for that is his readi-

est money-winner; and behold! at once the little people begin to bestir themselves in the same quest, and labor all night long, and all night long set before him truncheons of tales upon their lighted theatre. No fear of his being frightened now; the flying heart and the frozen scalp are things bygone; applause, growing applause, growing interest, growing exultation in his own cleverness (for he takes all the credit), and at last a jubilant leap to wakefulness, with the cry 'I have it, that'll do!' upon his lips: with such and similar emotions he sits at these nocturnal dreams, with such outbreaks, like Claudius in the play, he scatters the performance in the midst. Often enough the waking is a disappointment; he has been too deep asleep, as I explain the thing; drowsiness has gained his little people, they have gone stumbling and maundering through their parts; and the play, to the awakened mind, is seen to be a tissue of absurdities. And yet how often have these sleepless Brownies done him honest service, and given him, as he sat idly taking his pleasure in the boxes, better tales than he could fashion for himself." In spite of this poetical transformation, the psychological affinities are recognizable, though fancifully disguised; and when the dreamer comes to hold an accounting for the share of his intent and his prompted self in the joint product, he apportions the credit quite fairly. The Brownies "are near connections of the dreamer's, beyond doubt; they share in his financial worries and have an eye to the bank book; they share plainly in his training; they have plainly learned like him to build the scheme of a considerable story and to arrange emotion in progressive order; only I

think they have more talent; and one thing is beyond doubt, they can tell him a story piece by piece, like a serial, and keep him all the while in ignorance of where they aim." They "do one half my work while I am asleep, and in all human likelihood do the rest for me as well, when I am wide awake and fondly suppose I do it for myself." And though this sensitive writer is tempted to suppose that his conscious ego "is no story-teller at all, but a creature as matter of fact as any cheese-monger or any cheese, and a realist bemired up to his ears in actuality," the reader cannot share this doubt. Stevenson comes again upon psychological ground when he says: "I am an excellent adviser, something like Molière's servant; I pull back and I cut down; and I dress the whole in the best words and sentences that I can find and make; I hold the pen, too; and I do the sitting at the table, which is about the worst of it; and when all is done, I make up the manuscript and pay for the registration; so that on the whole, I have some claim to share, though not so largely as I do, in the profits of our common enterprise."

Dr. Holmes similarly acknowledges the portion of our subconscious acquisitions in our successes, and tells us that "we are all more or less improvisators; we all have a double, who is wiser and better than we are, and who puts thoughts into our heads, and words into our mouths," yet equally does he realize that the inspiring source of these subconscious thoughts is really the conscious "grinding" self. "Dr. Johnson dreamed that he had a contest of wit with an opponent, and got the worst of it; of course, he furnished the wit

for both. Tartini heard the devil play a wonderful sonata, and set it down on awakening. Who was the devil but Tartini himself?"

Interesting as it might be to cite other tributes to the participation of the subconscious in literature, science, and invention, it is more to the point to discover the principles involved in the ordinary coöperation of the subconscious with the conscious, of which the above and others of like import are but more interestingly expressed examples. For it is fortunately true that the more familiar, though less momentous or creative processes are as likely as the others to afford illumination, and particularly along the obscure path of our present exploration, — the wanderings in the underbrush that with skill and caution may result in the successful flushing of the game. Such an occupation, as familiar as instructive, is the search for a word or a thought or a quotation or a relation of things, which has at one time been in consciousness, but which we cannot at the moment recall.

"We wish to remember something in the course of conversation. No effort of the will can reach it; but we say, 'Wait a minute and it will come to me,' and go on talking. Presently, perhaps some minutes later, the idea we are in search of comes all at once into the mind, delivered like a prepaid bundle, laid at the door of consciousness

like a foundling in a basket. How it came there we know not. The mind must have been at work groping and feeling for it in the dark; it cannot have come of itself. Yet all the while, our consciousness, so far as we are conscious of our consciousness, was busy with other thoughts." — Holmes.

This impression of the attitude and the issue in such cases must be supplemented by penetrating somewhat behind the scenes, and thus viewing what goes on rather as a piece of stage-craft than as an effect from the body of the theatre. Nor is it quite so simple a matter as one might, without trying it, suppose, to reconstruct the evanescent stepping-stones by which the gap between the conscious and the subconscious has been momentarily spanned. Surely Dr. Holmes is right in insisting that the lost object of search cannot have come of itself; nor is there any warrant to suppose it borne through the air on the wings of a Pegasus or from a mysterious beyond. What mystery there may be is in the baffling intricacy of the mind itself, and is inherent no differently in the submerged than in the exposed stepping-stones over which thought or fancy makes its way. We must accordingly take our clue not from those instances that do not carry with them the solution of their composition, but rather from those that do.

Let us consider a psychologist's account of the recall of a forgotten word, and observe wherein, in such analysis, illumination lies.

"In going through a greenhouse yesterday I encountered a vegetable joke in the shape of a curious cactus. Immediately I saw it I was reminded of a similar one that I once saw in the Duke of Devonshire's garden at Chatsworth. It stood upon a bed of broken stone on the right-hand side of the hothouse as I passed through. There was a *Plumbago capensis* trained to the rafter above. A. and B. and C. were of the party, and I remember that B. asked me the name of the plant. Dear me, what was that name? A very happy day that was. We drove from Buxton. I don't remember that part of the drive, except that old D. told us twice in the course of it his old story of the witness and the judge. But I remember very well the 'Peacock' at Rowsley, for I had been there before, and I remember the drive through the meadows by Haddon Hall to Blakewell. Ah, yes! in the inn yard at Blakewell there was a cat torturing a mouse, and I remember how indignant I was with the brute. Odd that I should recollect a little incident like that, when I cannot remember the name of the cactus! What was that name? Poor old D. He is dead now. How cold it was when we started from Euston to go to his funeral, and E. dropped his umbrella between the train and the platform. The name of the cactus! It began with a 'C,' or was it a 'G'? And it had an 'm' in the middle, or at any rate it had no letter with a head or a tail, and I think it ended with 's.' — Cine-

reus? No. Gamens? No. Stay, had it not something to do with wax? Or was it that there was a *Hoya farnosa* close by? No, there is some flavor, some suspicion of wax or bees about it. Ap — no, it began with a C. Cim — Cam — Cer — Ceraceus — *Cereus!* That was it! Of course! Cereus, and hence the suggestion of wax — cera. Such were the rambling memories brought up in my mind by the sight of the cactus." — Mercier.

To what degree these moving pictures of the mind in operation, groping for an elusive name, are sufficiently realistic to stand as a worthy type of what goes on in these attempts systematically to drag the net of association through the waters of memory, in the hopes of picking up the object of search, will be more or less favorably judged according to the measure in which the recorded processes conform to our own habits. Yet the generic traits stand out conspicuously. In the instance cited, a more or less discursive revery was entertained, with the lost name as the common *point de repère* from which successively — like the spokes in the hub of a wheel — other clues that might regain the object of search were started; in other instances, a more stringent control of the associative processes might have admitted fewer irrelevant fragments of memory, or have glossed them over more transiently; while in still others, and doubtless the majority of cases, the mental still-hunt would have been conducted

by such suppressed and tentative steps as to make possible only a vague recoverability at the command of conscious recollection.[1]

But the processes that come to light conform to the typical conscious associations of ideas; whenever we successfully retrace the steps of an intent, deliberate sequence of thought, — like the spider climbing back by absorbing the thread that has just been launched, — we come upon just such links and ties in the mental chain. The excursions, whether of business or pleasure, in the main follow the same mode of progression, tentative, vagrant, and yet on purpose bent, — such as dependence upon visual images, upon verbal sounds, upon logical links of resemblance, upon accidental concomitance, — and thereby manifest their common kinship. It is true that the relationship must frequently be inferred from slight identification marks, that frequently our thought-processes are

[1] A more concrete analysis would read about like this : The first association aroused by the cactus was a visual one, — a complete picture, with many a detail, of the similar specimen which had been observed elsewhere. The occasion of the former observation, through the semi-deliberate recalling of the persons connected with it, led on to other items connected with these persons, and at each new turn or gap in the associations, the mind came back for a fresh start, usually a visual clue, for the missing name. The next plan of attack is for the appearance of the name directly, not the sound of the letters ; and with this there mingles the meaning of the word as suggested by the root letters thereof; this double clue proves successful.

so entirely submerged that the fragments thereof that float upward to the surface appear scattered, meaningless, and isolated. They are like islands scattered seemingly at haphazard along the coast, but which in the relief-map are seen to be the peaks of an irregular but continuous submerged range. It is because the associative and elaborative processes of the mind are so indefinitely various, — that the means by which one person recovers these lost fragments of his possessions, or by which he finds solution for the problems of his life work or the occupation for his leisure imaginings, are so certain to be different in detail, however similar in type, from those pursued by another. Yet the kaleidoscopic evanescence of the mental patterns, even though seen as in a glass darkly, owing to their lying so nearly out of range of the penetrating light of introspection, does not remove them from the field of comprehensible sequence. Such mystery as they offer is no added or peculiar one; it is the mystery of association itself, the elusive strand upon which are strung the beads of conscious thought.

It is equally intelligible that these processes are only conditionally at the command of our intent and desires. They do not obey the summons of an imperious will. We cannot order a man to write a poem as we do to dig a ditch. Yet it is equally important to recognize the measure in which our

creative efforts yield to the pressure of our needs, as of the measure in which they elude our purpose. Least of all does profit lie in acknowledging anything more than a subjective source for the feeling that what we have accomplished, possibly with unusual lightening of effort, is not the work of the one we know best of all, but rather the mysterious gift of extraneous inspiration. In abnormal cases we meet with exaggerations of this natural interpretation, the ready assumption of a partly different personality expressing itself through the organism ordinarily utilized by our conscious familiar self. Such a conception is psychologically illusory, and merely expresses in apt metaphor the familiar fact that the flow of thought, which at one time refuses to come at the behest of our own effort, at another seems to come of its own accord. It is certainly the exceptional author who can regularly tap the spring of his resources when purpose and leisure favor.[1] For the most part composition seems to await—and yet not passively,

[1] The reader is not likely to overlook that for routine, not too severely taxing occupations, we ordinarily do command our resources, arrange our day in periods of definite work and recreation, and respond upon occasion to the pressure occasioned by our own procrastination or by an unanticipated emergency. There are as wide variations in regularity of profitable effort in the less exacting as in the more creative occupations ; and the measure in which the mind can be stimulated to activity by resolution and desire must be fully appreciated.

but as though intentness of desire itself facilitated the issue — the arrival, from some outlying realm, of the material of its occupation. We are all dependent, as Professor Royce says, "even in the clearest thinking, upon the happy support of our associative mechanism." But most of us know how, in general, to prepare the soil for the kind of crop we hope to reap. We read upon a given subject, keep the mind turned upon it, absorb by means of the growing interest all that is germane to the topic, feel more and more the pressure of getting ready for the printer or the lecture platform, at last get to work, sluggishly at first, often with unexpected easing of the path of progress, with much revision and pruning, until at last our little effort is done. We have done the best we can; we have held ourselves to our task; we have avoided and dismissed irrelevant associations; we have filled the antechamber as full of attractive applicants as we could gather, and we have tried to inspire both consistency and brilliancy in the personages that have thronged our court. If the levée has not been as successful as the court of a more gifted or a richer monarch, we must accept this fate as part of the inevitable endowment that creates men most unequal. By adopting such an attitude we are not curtly disposing of the inherent intricacy or mystery of the processes of thought; we are merely insisting

that the mystery, if such we call it, that surrounds the subconscious phases of authorship, is none other than the mystery that is inherent in the conscious phases. The former, by being more recondite, is apt to impress us with the wonderful and fearful make-up of our mentality; it seems surprising that the mere associative processes should occasionally follow a logical bent, even when there is no visible logic-master to arrange their sequences. But our very recognition of this unusual character is a tribute to the more ordinary non-logical character of subconscious revery. The flow of ideas in our "brown studies," in the castle-building of imaginative youth, in the chaos of dream life, is typically an unaccountable mixture of fact and fancy; if now and then the fact elements combine to make a half-consistent whole, and the fairies for the nonce desert their magic realm, and attach themselves to the service of our waking selves, is the mystery any other than of thought itself?

VII

THE SUBCONSCIOUS IN MENTAL PROCEDURE

The assault upon the intrenchments of the subconscious is the more promising of results if carried on, not in the main by direct attack, but by flanking movements, by quick advantage of momentary breaches in the investment, by night surprises, and all the shrewd devices of strategy. Or, to change the figure, a deliberate effort to invade the underground workshop of thought is like the attempt to observe the constructive and domestic habits of the bees or ants or other light-shunning organisms. We induce them to enter the glass homes that we have prepared for their occupation; but, after the habit of bees, they shut out our inquisitive gaze by a curtain of wax, or, like the ants, fall into confusion when we lift the cover of the darkened nest. The most promising strategical measure will be to use the dimmest illumination that reveals details to discerning eyes, and yet will not arouse the restlessness of the shy inhabitants; or, if fortune favor, to secure specimens whose aversion to light is less pronounced, whose domestic activities now and then are carried on above ground. In so far as our reconnoitring

has revealed the internal economy of the mind's occupation, it has disclosed a functional parallelism, a concordance of division of labor, and an affiliation of purpose between the conscious and the subconscious participants in the common weal. It is now essential that we study the temper, the bent, the policy, and the trend of the movement which we have just been examining in regard to its mechanism, — thus supplementing a knowledge of the working parts by an understanding of the genius of the whole.

What, then, are the characteristic motives of the mental excursion, and how are they reflected in the gait and *tempo* of its progression? What manner of character, as reflected in behavior, does our introspective strategy disclose? Doubtless no two psychologists would give wholly coincident replies to this comprehensive query, just as no two artists would give the same pictorial rendering of the composition to which their eyes are turned. The manner of their execution and the quality of their ideals, the allegiances of their points of view, inevitably modify the result. In each endeavor realist and idealist and impressionist reveal their several tendencies. Yet the resemblances outweigh the differences; and the common factors need not be obscured by the deviations in tone or in detail. If only we can render aright the dominating features as well as the spirit of the whole, our sketch

will bear analysis, and serve to recall the appeal of the actual experience.

This preamble is made necessary by reason of the position about to be taken, that the conventional accounts of the mental progression are, many of them, quite seriously at fault; that the false perspective which they present is precisely such as to weaken and distort and obscure the intimacy of relation that really exists between the normal tenor of thought and those modifications thereof that most distinctively disclose the participation of the subconscious factors. That which to our present purpose is the most essential is just what is overlooked or feebly portrayed in many a cursory inward contemplation. The reason for this is to be found in the uncritical tendency to accept, as the pattern of thought in general, the type of thinking with distinct purpose which to the student is important, and to the psychologist and to the man of science, equally with the man of affairs, is indispensable; and we all have purposes in life, all have scientific streaks in our make-up, all have problems to solve, and all indulge in some observation of our own procedures. Yet the great mass of mental operations is not of this definitely logical type; their *motif* resembles more closely that of a melody, or a poem, or a picture, than that of a problem. It is not a running of errands, a carrying of the message from point to

point by the shortest route, but a ramble in some one general direction, following, but not blindly, the winding brook or the tangle of woodpaths, with much loitering by the way and much yielding to the attractions of the moment. Or, if it be not wholly this, it resembles this meandering excursion far more typically than it does the straight and narrow path which logically, as well as morally, it requires some effort to follow. Some element of revery, of play of fancy, or at least of loosely connected thought-pictures, enters into all of our less strenuous moments, — in the aggregate, the vastly greater measure of our span of life. The mental loom is not rigidly adjusted to weave now this and now that set pattern according to the fitness of material or occasion, but is in its operation rather like the method of the Oriental weaver of rugs, who, under the traditions and conventions of his craft, composes the pattern as he goes, never wholly departing from the model, never quite repeating his design, alert to embody new variations in novel, fanciful combinations.[1]

[1] In looking for corroborations of this view, I found a moderate appreciation of its importance in several sources, but none so definitely bearing upon the present issue as that of Mr. Frederick Greenwood: *Imagination in Dreams* (1894). I have profited by his exposition in this connection, and in the special study of the status of dreams. I give one citation out of many equally apposite: "There is thought and thought. A great deal that is called

If such be the mode of progress of much of our meditation, it is not only in itself important to recognize the fact, but the recognition strongly affects the manner of our interpretation and the spirit of our analysis. It prepares us to appreciate how large a portion of such progression must be variable, evanescent, with its associative links submerged below the water-level of memory, belonging more to the subconscious than to the conscious realms.

The road from premises to conclusion, though by no means always simple or single, is yet a highway, that, if lost, may be recovered by chain and compass; but the sequences in the plot of a novel, or in the scenes of a play, or in the stanzas of a poem, though by no means capricious or without method, are not staked out by ordinates and abscissæ. It makes a decided difference in tracing the roots of the subconscious whether we expect to find them growing amid the orderly beds of a trim garden, or in the natural tangle of the woods. Unquestionably the flowers of the mind are both wild and cultivated, and their varieties and affinities no less bewildering in the one group than in the other; but typically are we

by that name would hardly deserve it were desert in question; so lax is such thought in grasp, so loose of intention, so broken by lapses into what we must call dreaming: it cannot be described as anything else, in fact."

naturalists rather than gardeners, though more truly are we fearful and wonderful mixtures of both.

The tendency that has been over-emphasized is the horticultural, rather than the unconventional, nature-like bent of our mental produce; and the tendency has been also to forget how much of our crop has not been raised from the seed, but gathered upon countless expeditions, and transplanted with much unbeknown carrying of other seed in the measure of earth needed for the operation. Thus does it result that we cannot be certain of the *provenance* of our choicest blossoms, as we greet with surprise their fitness in the bouquet that sets forth the freshly gathered issue of our ventures. If the vista of the range of thought thus variously disclosed be a favorable one, it will be foreseen that waking revery and much that poses as thinking, and what we acknowledge as dreaming, are not far apart, — only different movements of the same composition. The prevalence of dream factors in logical thinking would then be appropriately supplemented by the discovery of logical factors in the progress of dreams. Conscious purpose and subconscious musing may be found in each, and each in turn retains its distinctive trademarks of person and interest, of manner and subject, of school and technique.

The contrast thus presented may be approached somewhat differently. It then appears as the contrast between the motive that leads to a brisk, direct walk, and to an idle stroll; between the guiding of one's steps by a mentally imposed plan, rejecting all solicitations of byway or loitering by the roadside, choosing both pace and path for a set purpose, and the differently motived wandering over hill and dale, with the incentive to go or linger set by nothing more definite than passing interest, and with the goal placed where fancy listeth. What is characteristic of the mental excursion is that the habit of the one is reflected in the other; our working and our playing selves not only inhabit the same tenement of clay, but together build up the character of our complex personality. We form judgments of our fellow men quite as freely and as validly from their behavior in leisure as in serious occupation, possibly giving the former a higher personal rating because of its truer, more spontaneous revelation. The community of the two modes of procedure — merely different gaits of the same organism — lies in their use of a common material, common habits of association, common interests, common experiences, common inheritance. Naturally, the conventionally restricted, intensely striving self, guided by moral ideals and logical convictions, watchful of gesture and utterance, may give little

suggestion of the natural, unrestrained character that comes to light in the privacy of undress or of the intimate circle. What appears in print after the blue-penciling of the editorial censorship is frequently a decidedly different product from the copy as originally submitted. It is an ineradicable difficulty in studying any group of associations that so much is unwittingly and in part unintentionally suppressed, so much modified in expression, so that the objective records reflect but meagrely the discursive and fanciful spontaneity of the living, mental pulsations. It is, indeed, almost impossible to throw off by a deliberate effort these complexly restraining influences and disclose the natural mind beneath; so constant and indeed indispensable are guidance and control, rejection and selection of our steps, when purpose enters even in small measure into the conduct of affairs.

For this reason it ensues that we must look to such memories as come to us in dreams, or in the dream-like moments of waking, to present, seemingly with exaggerated caprice, the fancy-free saunterings of the mind's holidays. Let me first focus these considerations upon a type of constructive dream, one in which the purpose of the waking self was carried over into the dream-state, and thus acquired the characteristic motives and setting of the *rêverie*, without losing the normal interest in the goal that imparts unity and direc-

tion to the whole. The narrative thus selected is related by one professionally engaged in interpreting the archæological remains of ancient Babylonia.

This is the story:[1] "One Saturday evening I had been wearying myself, as I had done so often in the weeks preceding, in the vain attempt to decipher two small fragments of agate which were supposed to belong to the finger rings of some Babylonian." After detailing the difficulties of the interpretation of the characters upon these rings and his dissatisfaction with the imperfect explanation offered and about to be incorporated in a volume, he continues: "About midnight, weary and exhausted, I went to bed and was soon in deep sleep. Then I dreamed the following remarkable dream. A tall, thin priest of the old prechristian Nippur, about forty years of age and clad in a simple abba, led me to the treasure-chamber of the temple on its southeast side. He went with me into a small, low-ceiled room without windows, in which there was a large wooden chest, while scraps of agate and lapis lazuli lay on the floor. Here he addressed me as follows: 'The two fragments which you have published separately upon pages 22 and 26 belong together,

[1] Cited by Newbold in the *Proceedings of the Society for Psychical Research*, vol. xii, p. 14. It is not essential for the use here made of this narrative that the recorded account should be (as possibly it is not) a perfectly circumstantial rendering of the dream-pictures; likewise is the stamp of the dream-procedure clear upon the tale, even though certain of the more logical factors may have been added in a more nearly waking state.

are not finger rings, and their history is as follows: King Kurigalzu (ca. 1300 B. C.) once sent to the temple of Bel, among other articles of agate and lapis lazuli, an inscribed votive cylinder of agate. Then we priests suddenly received the command to make for the statue of the god Ninib a pair of earrings of agate. We were in great dismay, since there was no agate as raw material at hand. In order to execute the command there was nothing for us to do but cut the votive cylinder into three parts, thus making three rings, each of which contained a portion of the original inscription. The first two rings served as earrings for the statue of the god; the two fragments which have given you so much trouble are portions of them. If you will put the two together, you will have confirmation of my words. But the third ring you have not yet found in the course of your excavations, and you never will find it.' With this, the priest disappeared." True enough, the two parts were put together, and the description was deciphered by proper guesses for the missing portions of the middle piece: "To the god Ninib, son of Bel, his lord, has Kurigalzu, pontifex of Bel, presented this." So the Brownies will decipher Babylonian inscriptions as well as invent tales of adventure; provided they have a chance in the one case to rummage among the possessions of an expert Orientalist, and of a gifted story-teller in the other.

Mr. Andrew Lang in citing this Dream of the Assyrian Priest makes an appropriate addition, that emphasizes how readily the actual solution may come either in the dreaming or in the waking

state, and how characteristically different is likely to be the costume in which it appears for these diverse occasions: "I myself when working at the MSS. of the exiled Stuarts, was puzzled by the scorched appearance of the paper on which Prince Charles's and the King's letters were often written, and by the peculiarities of the ink. I awoke one morning with a sudden flash of common sense. Sympathetic ink had been used, and the papers had been toasted or treated with acids. This I had probably reasoned out in sleep, and had I dreamed, my mind might have dramatised the idea. Mr. Edgar, the King's Secretary, might have appeared and given me the explanation."

Thus does that element of a dramatic setting which few of us lack — though most of us suppress in the realistic intercourse of this work-a-day world — get its innings when the logic master is wearied and put to sleep. The cunning apprentice, who all along has been looking over his master's shoulders, steals into the studio at still of night, sees the tentative and unassociated outlines of the sketch, the palette all laid with the proper colors, the brush ready to hand; he guesses what the whole is to be, puts in a few connecting strokes, a touch here and a patch of color there, and thus prepares a surprise for his master upon awakening. For it is naturally the fact that each one of the missing details that led the dreamer to decipher his rings was in a measure known to him in his conscious moments. The suggestion of the earrings

seems to have started from observing that the openings were too small for the fingers; of the existence of such votive tablets he had known; parts of the proper names were indicated on the portion of the ring already deciphered; the scene of the temple seems to owe its origin to the description of such an excavation by one of his colleagues. His tired brain, with its associative processes weakened by over-effort, required only a partial rest to see, as in a flash, the true key to the situation, which his unrestrained associative mechanism presented in dramatic form and with some irrelevant detail. Had the solution not come at night, it might have come the next morning. The pathways here are no flights of Pegasus; they are the daily route of the ideas of a trained mind in a familiar country.

It seems best to be content for the moment with this satisfying illustration of the process by which in progressive thought the many are called and the few are chosen; yet it is important to observe the common characteristics of such instances. The first is that a letting down of the effort, a focusing of the mind upon a point, a little or a good deal to one side of the fixation point, distinctly aids the mental vision, just as it aids the astronomer in observing a faint star to look not directly at it but a little to one side of it. How far this is due to the fatigue in one overwrought group of

brain-cells, how far to the fact that we thereby bring into action larger tracts of associative processes, or how far it forms a special illustration of the indirect method of approach characteristic of subconscious operations, it may not be possible to determine; yet the suggestion is apposite that for intent reflection, particularly for the contemplation that fixes groups of ideas as yet held vaguely in the mind, thinkers have at all times resorted to the restful inspiration of a walk in the woods or a stroll over hill and dale. While such peripatetic diversion[1] may also possess physiological efficacy, its rationale seems mainly psychological, perhaps conducive to a more diffuse spreading of the attention over a wider, less accessible, and more vaguely illuminated area. We thus might almost say that distraction and the idler moments of contemplative revery are as essential to fruitful production as the intent periods of executive effort; the trough of the wave is as intrinsic a part of its progressive character as the crest.

Among recorded instances of important discoveries emerging into consciousness at such indirect moments of leisurely occupation, when "the mind is at lullaby," I have noted the following:

[1] Is it not the same process in miniature that leads one, when the sought-for word or idea hovers near but will not alight, to try a motor *divertissement*, to twirl one's cigar, tap with pencil upon the table, or resort to the conventional stage gesture, and scratch one's head?

Sir William Rowan Hamilton evolved the intricate conception of the invention of quaternions while walking with Lady Hamilton in the streets of Dublin, the flash of discovery coming to him just as he was approaching the Brougham Bridge. Mozart had the aria of the beautiful quintette in the "Magic Flute" come to him while playing a game of billiards, and seemed prepared for such occasional influxes of musical ideas by carrying a note-book for their instant record. An inventor suddenly conceived the proper way of constructing a prism for a binocular microscope — a problem which he had long thought of and abandoned — while reading an uninteresting novel. Professor Kekulé tells how he saw the atoms dancing about in mid-air in conformity with his theory of atomic grouping, while riding on top of a London 'bus. In the attempt to recall a name that is on the tip of the tongue many persons deliberately occupy themselves with something irrelevant, finding by experience that this is an aid; and the day-dream through which flashes a happy "Eureka," or the dream of deeper sleep that discovers the treasures that our laborious digging had failed to unearth, are equally instances in which the fixed intent of the more watchful consciousness is withdrawn.

All this points to the fact that the large stores of accumulated learning which we carry in our heads lie in part near the focus of interest that occupies our immediate attention, in greater part lie in ever widening areas, — all permeated by an intricate network of highways and byways along which the goods of our minds come floating. What Mr.

Leland remarks of the work of genius is measurably true for the favored periods of all workers, namely, that "it sweeps along, as it were, in a current, albeit it has enough reason left to also use the rudder and oars, or spread and manage a sail;" and though it is obvious that we cannot create the wind that brings the ship to port, we can guide the rudder and show our skill in using what breeze may come. Such a conception does not deceive itself that it explains what in fact it only describes; but it places the emphasis at the proper point, and avoids error by assimilating the unusual to the usual; it prevents the cherishing of false theories by shunning the assumption of marvels, and by extending the marvel of the commonplace. In every step of thought there is the unaccountable something, the hidden and individual motive power that supplies the energy; "in the case of small steps, even the heavy and clumsy thinker feels sure that he does not trip; with greater leaps, however, the danger of stumbling increases, and only the dexterous and nimble attempt them with advantage." (Hartmann.) Though in time the flights may seem longer and more daring, and the contact with the earthly realities of consciousness may became so occasional and incidental as to create the feelings not of steps at all but of mysterious flight through the air, we may be assured that the feeling has no other than

a subjective basis. The enthusiastic prophet of the Unconscious may tell us that "the discursive and deductive method is only the lame walking on stilts of conscious logic, whilst rational intuition is the Pegasus flight of the Unconscious, which carries in a moment from earth to heaven;" yet the psychological observer cannot fail to notice the long periods of training and accumulation of experience that prepare the way for the marvelous performances of the expert. Admittedly in the end, the individual endowment remains the unaccountable factor in the problem; and most of us would make a poor showing with the seven-leagued boots of genius, were they suddenly to be placed at our disposal.

VIII

THE SUBCONSCIOUS MATURING OF THOUGHT

Our main attention has hitherto been given to the plan and mode of conduct of the campaign of thought, though with recognition of the many and diverse interludes between engagements, as of the countless routine occupations that such campaigning brings in its train. It will be profitable to devote some consideration to the service of the preparatory drill and training for leadership as well as within the rank and file, and to regard also the participation of the subsidiary provisioning — the important commissariat — that does not figure conspicuously in the military manœuvres, but the efficiency of which conditions the efficiency of the whole. Whether, to bring before us the importance of these preparatory stages, these sources of supply, we use this analogy or some other, — such as the plowing, harrowing, sowing, and watering that precede the reaping, — we do so with easy recognition of the peculiar and complex relations that obtain in the mental world between the antecedents and the result; recognizing more particularly, as in all organic products, that we reap only as we sow, and that the variable conditions of

nature and nurture enter in to determine what manner of harvest shall finally issue. An essential portion of the maturing processes goes on underground, subconsciously, yet always in closest correlations with the visible growth. This dependence upon the subconscious we deliberately accept and utilize, persisting with our efforts for long periods without very tangible showing, confident, with favoring fortune, of ultimate progress. We speedily learn to abandon any real hope of sudden endowment by the gift of fairies, or the surprises of vicarious service by kindly sprites, expecting only the step-by-step advance that is the measure of our capacities, and welcoming such favoring circumstances as fall to our lot.

There exists in all intellectual endeavor a period of incubation, a process in great part subconscious, a slow, concealed maturing through absorption of suitable pabulum. Schopenhauer calls it "unconscious rumination," a chewing over and over again of the cud of thought preparatory to its assimilation with our mental tissue; another speaks of it as the red glow that precedes the white heat. The thesis implied by such terms has two aspects: first, that the process of assimilation may take place with suppressed consciousness; second, that the larger part of the influences that in the end determine our mental growth may be effective without direct exposure to the searching light of conscious

life. Both principles enforce the view that we develop by living in an atmosphere congenial to the occupation that we seek to make our own; by steeping ourselves in the details of the business that is to be our specialty, until the judgment is trained, the assimilation sensitized, the perspective of importance for the special purpose well established, the keenness for useful improvisation brought to an edge. When asked how he came to discover the law of gravitation, Newton is reported to have answered, "By always thinking about it."

While the second aspect of this thesis is hardly susceptible of any more definite illustration than is afforded by the general cultural fruitage of our combined nature and nurture, the first aspect presents a precise problem, which the psychologist approaches with such special equipment as his ingenuity affords. His method is to catch the moment of perception at the lapsing edge of consciousness and forcibly to reinstate it; for there is an area in which, under favorable circumstances, the passage in and out of the range of the inner search-light may be rendered visible. There is, for instance, the common experience that something which we were just ready to speak has, by the rivalry of other intruded interests, been temporarily driven back from consciousness, and leaves us adrift, the conscious vacantly asking the sub-

conscious self, "What was I going to say?" It is by a sort of fumbling about among the fading trails of ideas for some clue by which to recover the lost thread of discourse, that we attempt to arrest the fast receding lines of thought. A variation of this experience occurs in writing, whenever a larger group of suggested ideas than can immediately find expression appeals for notice; the writer has the troubled feeling that, while recording one, the others will again slip from his mental grasp. In all original composition there occur constant relaxations in the tension of thought — at times the budding of a brief abstraction — in which the associations that had just entered the focus of awareness flit back into the shadow and must again be sought for when the light of attention in turn brightens. The very attitude of the effort to recover such evasive associations — the closing of the eyes to exclude the outer glare and relieve by contrast the dimness of the light within, the intent peering in the dark to catch the first glimmer of the lost trail — is suggestive of the procedure which the mind may be said figuratively to employ. In such wise may we occasionally detect the exit of ideas hovering near the margins of consciousness, when our interest makes us eager for their recovery. Frequently do we fail in this endeavor, the failure inducing a submerged troubled feeling while the mental explorer goes forth and

"comes back like the dove into the ark, having found no rest;" and we either make the attempt anew under more promising auspices, or are agreeably surprised by the spontaneous intrusion of the lost idea into our otherwise occupied attention. It is precisely the manner and occasion of this reëntrance, so commonly unobserved, that is the object of our present pursuit.

The psychologist must admit that he possesses no reliable means of arresting the fugitive and of leisurely preparing a psychological identification, or of shadowing his flitting movements. He is accordingly grateful to such peculiarly endowed individuals as possess more certain means of alluring such images to the footlights, or of projecting them upon a screen for common observation. Such a magic-lantern of the mind seems really possible to favored temperaments; and the process has received the not wholly appropriate name of "crystal-gazing." We may describe this gift as a knack of developing the subconscious images by fixing the eyes upon a reflecting surface and noting the fleeting pictures that form thereon, apparently without conscious direction. Naturally, so subtle a process does not remain steadily at command; it is the occasional successful visions that illuminate the subconscious entrances of impressions that appear opportunely in this psychological mirror.

A lady,[1] expert in such gazing, commonly sees a motley procession of dream-like pictures, and in the following instances was able to trace them to their subconscious source: Upon one occasion she was sitting at her writing-table near the open window and became dimly aware that an elderly relative in the room said something to her. The noise in the street prevented a distinct hearing, and, as will often occur, the incident passed by without further questioning. While tilting the inkstand she caught a glimpse, in the darkened surface of the ink, of the image of a florist's parcel. Arising from her writing, she went into an adjoining room, found the parcel, and was greeted with "I told you half an hour ago to attend to those flowers; they will all be dead." Here the verbal message is not consciously received, yet makes associations with the visual centres and projects an image, which, by the fortunate habit of tapping the subconscious through visualization, is reinstated in consciousness.

Before giving other instances of the exercise

[1] Miss X. (in the *Proceedings of the Society for Psychical Research*, vol. viii, etc.) pertinently remarks that "it is just the things that we see without noticing at all, which the crystal is calculated to bring to our attention;" and also notes as the requisite for exercising this power that "every crystal-gazer I have ever met has been a good visualizer." In illustration of her own powers she remarks: "For example, I have forgotten the day of the month. I read the *Times* this morning, and I chanced to remember that the first name in the births was Robinson. My power of visualization enables me to create in the crystal a picture of the top of the first column, my memory, helped by this association, does the rest. I carry my eye along and see that the date is September 6."

of this faculty, I wish to call attention anew to the fact that the process involved differs not in essence, but only in the manner of its manifestation, from similar chance detection of subconscious associations. Accordingly, a few further illustrations in which the subconscious makes its entry through other portals will be apposite. Decidedly so is the testimony of one who, immersed in reading, comes upon the word "gasoline," and is brought to a standstill by the sudden presence of the odor of that substance in the room. So curious and surprising was the sensation as to provoke an investigation, which resulted in the discovery of a can of gasoline in the cellar, of which the reader had been quite unaware. Undoubtedly the odor had penetrated to the room, and though not consciously perceived, became so when the attention was directed thereto by the solicitation of the visual channel.

A different type of mixed participation of conscious and subconscious factors appears in the following: Dr. A. was walking along the streets of Paris, his thoughts intent upon an examination in Botany which he was soon to face. Suddenly his eye was caught by an inscription on the glass door of a restaurant, showing the words *Verbascum Thapsus*. This seemed rather an unusual legend, and now, with keener alertness to his surroundings, he retraced his steps and discovered the real inscription to be "Bouillon." It appears that the plant *verbascum* or *mullein* is popularly known as "bouillon blanc." Thus the hastily and subconsciously observed "Bouillon" arouses an association with its popular synonym,

and after the manner of a waking dream, projects itself as an illusory visualization, taking definite form by force of the dominant botanical interest.

I have myself, while writing in a room in which talking was going on, inadvertently incorporated a word from the conversation in my manuscript; and with equal unawareness have I responded to the use, by one of the speakers in the room, of a proverbial phrase, by later parodying that phrase in my writing; and only in rereading the copy did it flash across my mind that it had been thus suggested. Analogous is the familiar harking back to become aware of the stroke of the clock or even to count the strokes, at a moment of easement in the attention devoted to the main occupation. The usual situation finds the writer intent upon his work, deciding, let us say, to stop when the hour sounds. This charge upon the subconscious attention becomes lost as the absorption in the writing increases; gradually at a less strenuous moment the impression gains first a slight, then immediately a decided recognition that the clock had struck a few minutes ago. The intrusion is in this case of the external sensory impression upon the intent inner occupation; the same direction of intercourse appears in the "gasoline" incident, in the vision of the florist's parcel, and in the parodying of the proverbial phrase. The reverse and less usual movement of an inner memory-image getting itself partly projected into the external sensory field is that of the inscription on the restaurant door, and more intricately that of the "crystal vision" presently to be cited. The

same appears in the following cases, both peculiar in that the subconscious impression provoked an incipient or actual hallucination. A person in an abstracted condition was handling some waste papers and some of value, the one to be placed in a drawer of a desk, the other to be destroyed. When about to toss the packet into the fire, there seemed to be an arrest of the hand, as from some foreign source, to prevent the threatened destruction. The subconscious recognition that the papers about to be consigned to the flames were the ones to be preserved, was here just sufficient to project itself at the critical moment in the form of a real sensation, an efficient restraining impulse. Again, a lady walking down a hotel corridor towards an elevator, and presumably also with her thoughts inwardly directed, was confronted suddenly by an apparition that took the form of a strange man, — an appearance sufficiently startling to arrest her progress, and to awaken her attention to the fact that the door of the elevator shaft stood open, and that further inattentive movement toward it might result in a serious accident. "Here" (this is Mr. Lang's comment) "part of her mind may have known that the door was open, and started a ghost (for there was no real man there) to stop her. Pity these things do not occur more frequently."

And now to conclude with projections from the subconscious upon the crystal screen: In the afternoon, in a conversation not addressed to the narrator, the name of Palissy was mentioned. A look in the reflecting surface showed a man hastily tearing up some wooden garden palings; and

"before I had time to wonder what this meant, it was followed by another picture, all in red, of the corner of the library where as a child I kept my books, including one distinctly recognizable, which I have not seen these fifteen years, called 'The Provocations of Mme. Palissy.'" It was then recalled that one of the provocations was that Palissy fed the furnace for his pottery with the household furniture rather than imperil the success of his labors. Here, as before, the associative processes had been set to work by subconscious auditory impressions, and when their work was done, gave it over to the usual visual channels. The appearance in the crystal upon another occasion was that of an intimate girl friend beckoning from her carriage; and her hair, heretofore hanging loosely down her back, was arranged high. It appears that during the day the narrator had passed by this carriage, but she insists, "Most certainly I had not consciously seen even the carriage." On the following day she visited this friend, was called to account for her failure to recognize the occupant of the carriage, and was surprised to perceive that the latter was actually wearing her hair in the manner which the crystal had shown.

In such wise may we detect the entrances of perceptions from the outside world, all unobserved by the ordinary consciousness, that later is surprised at the opportune presence at its own hearth of acquaintances that found recognition without formal introduction. Undoubtedly this process

goes on a hundred times when we fail to observe it, to one occasion susceptible of proof; and this is precisely what we should expect by analogy with the more familiar processes of acquisition. Judgments and inferences upon data that are never brought into the focus of consciousness enter constantly into our sensory perceptions. The stereoscope offers versatile and brilliant proof that our delicately trained eyes accurately infer the solidity of objects from the distinctive dissimilarity of the two retinal images; yet we never consciously realize that this is the ground of the inference. In apportioning the several values to be attached to changes of size with distance, we again perform a considerable range of complex estimates, not one of which clearly emerges into consciousness. Many optical illusions depend for their effect wholly upon the fact that there are inferential steps in ordinary perception; the illusion takes advantage of these by presenting the exceptional condition under which they lead to error; but of the inference, right or wrong, we do not become conscious. When we analyze the performances of the stage magician, we observe again that a goodly portion of his deceptions requires and induces the drawing of subconscious inferences on the part of his spectators. In all this the ear corroborates the eye. We distinguish the quality of violin or 'cello, of harp or piano,

of one voice or another, predominantly, though not wholly, by the overtones that these several instruments enforce and suppress; yet of the basis of our discernment do we remain wholly ignorant.

Experiment shows that we decide that the source of a sound is to our left, because the effect thereof is stronger in the left ear; but our own observation never informs us of the principle that we constantly utilize. Experiment has likewise shown that the effect of an illusion may persist, even though the lines that determine it have been rendered so faint that the eye cannot decide whether they are still present or have wholly vanished; and again, that in listening to a very feeble and receding noise, one becomes convinced that the noise is lost, when if the "imperceptible" sound be entirely stopped, there ensues a further drop in what seemingly had already touched bottom; and once more, that when the eye is invited to regard a group of characters or objects, and after an interval one member of the group is again presented, with the request that the "subject" describe other members of the group in which it appeared, the partial or complete failure to do so is not incompatible with the presence of the forgotten detail in a cluster of associations seemingly spontaneous to the "subject," but in reality initiated by the unobserved detail. It falls within the pur-

pose of the study of psychology to bring forward the grounds of such inferences and associations; and so far as we are psychologists may we become partially aware of the subconscious factors in ordinary perception. The evidence is thus varied and convincing, that the processes of perception of the external world — some deliberate when not yet fully established, others never reflective at all — are in the ordinary use of our faculties as typically subconscious as conscious in their mode of functioning; and in virtue of this relation does it ensue that we hear and see and feel things, that guide our inferences, that enter into our associations, that contribute to the training of our minds, that modify our tastes and preferences; and yet all these factors enter but feebly into the realm of conscious knowledge.

The extension of this principle to more general acquisitions and to the practical life lies close at hand. It is apparent in all the emphasis laid upon the influence of the *milieu*, in the home and in the school, in city and in country. It is the trend of such subconscious impressions that eventually leads to the toleration of, or insensitiveness to, all that is ugly or vulgar in the one case, and in the other to a refining discrimination and fastidiousness, and to the establishment of good taste and good morals. No stage of the process at all involves the conscious study from the artist's or the moralist's point

of view of the æsthetic or ethical issues involved. Teaching by example rather than by precept is not wholly unrelated to the teaching by the subconscious rather than by the conscious. A bright child learns more outside of the lesson periods than in them. A college education is valued, and a given college preferred, quite as decidedly by the traditional influences that are embodied in its spirit as by the curriculum that it offers. Persistent practice, even though not wholly intelligent, often brings about an expertness quite as readily as do the processes of conscious analysis. The artistic training and temperament deliberately lay emphasis upon the unanalyzed sensitiveness to subtle differences of æsthetic effect; and the skillful artist need not be, as he usually is not, an apt art critic. In music the picking up of arias by ear, when contrasted with the reading by note, is, again in part, though only in part, a difference in reliance upon the subconscious and upon the conscious. There is no doubt that in the extreme, the two methods of apperception tend to become antagonistic. The too conscious contemplation of the technique diminishes the sensitiveness to the general artistic impression. The close geological observer tends to lose the general massive impressions of nature; and Darwin records in his own person the resulting weakness of the literary and emotional susceptibilities as a consequence of a too deeply ingrained

and absorbing analytical habit of mind. The general contrast between the apperception by quick, total, merged, affective impressions, and the successive and separate attention to logically selected detail, falls in large measure within the contrast of the subconscious to the conscious. Similarly the skill that depends upon knack, that enables us to do but not to tell how we do, — the billiard player depending upon his general impressions and feelings rather than upon calculation in striking the ball, — these in turn represent in the motor field the greater reliance upon subconscious training. And in the end, the contrast of temperament that inclines one to this and the other to that form of pursuit and mode of its cultivation, lies largely along the same lines of division. We are all more or less impressionists; we are all more or less scientific; for in all, the apportionment of dependence upon subconscious to that upon conscious processes acquires, as the character is moulded and our habits become set, a definite value, which is our personal equation in this relation.

I shall bring this phase of our presentation to a close by directing attention, from an allied approach, to the repeatedly emphasized fact that the associative mechanism finds its sphere of activity largely in the subconscious realm. It does so not alone in the intellectual acquisitions, but even more saliently in the emotional medium in which

our personal growth so characteristically has its being. The stream of thought is emotionally tinged, and affective states play as elemental a part in its progressive movement as trains of ideas. The paths of association and the grooves of habit and memory are determined as influentially by pleasures and pains, by the more organic sensations that are obscure in their import but direct in their bearing upon personal welfare, and by the appeal of experience to our more cultivated sensibilities, as by any system of knowledge or the logical interpretation of data. The feelings, it has been delicately said, form the mother-mood of dreams, and, one may add, of much imaginative association. The odor of pine needles recalls not so much the visual picture of the forest and the trees, as it does the mood in which we wander among them, or through the mood arouses the picture; and it is by clustering about a simple perception a subtle complex of deep emotional states that the Church evolves the effective symbolism of the church bell and the angelus. It is the sympathy of the mood that characteristically begets germane associations, as it is the emotional background that creates the congeniality of mental disposition that facilitates intellectual intercourse; and thus are impressions formed of which we render no conscious account.

It is by a different utilization of the same

process, too, that we often gain convictions for which we can give no reasons; and personal likes and dislikes, suspicions and elective affinities find their point of origin in the subconsciously perceived indications of inward traits. As we find these justified by experience, we come to trust our impulses, first impressions, natural intuitions, even when they seem baseless; for such is the natural logic alike of the subconscious and of the emotions. Nor must we construe this as totally different from, or antagonistic to, the ordinary inductive judgments. After all it is only in the expert that the judgment becomes so trained that it is safe to question a piece of reasoning without being able to point out the flaw; to mistrust, without being able to justify the suspicions. Such impressions are strong and valuable in proportion to the solid foundation of consciously and subconsciously interpreted experience upon which they rest. It is thus alike that character and the knowledge that is power are laid down. Professor James sums up the ethical implications of this truth: "Let no youth have any anxiety about the upshot of his education, whatever the line of it may be. If he keep faithfully busy each hour of the working day, he may safely leave the final result to itself. He can with perfect certainty count on waking up some fine morning, to find himself one of the competent ones of his generation, in what-

ever pursuit he may have singled out. Silently, between all the details of his business, the *power of judging* in all that class of matter will have built itself up within him as a possession that will never pass away."

IX

THE LAPSES OF CONSCIOUSNESS

I PROPOSE at this juncture to consider with a more detailed interest certain failures of adjustment of consciousness to the actual conditions that confront us. The general status of such lapses, as also their service in illuminating the mechanism and supports of conscious operations, has already been set forth. Such a survey serves a purpose more profitable than that of a mere review; it gives a vital, realistic touch to the more formal sketches that have preceded; it affords an opportunity of extending in suggestive detail both the illustrations and the principles in whose behalf they have been gathered; and it offers valued points of contact with the presentation of the abnormal varieties of defects of consciousness that is to follow. This special treatment is also warranted by reason of the common familiarity of such lapses; indeed, they constitute the domestic variety of the species whose natural history is our special concern. A study of their intimate habits is certain to further our insight into the psychology of the subconscious.

It will be recalled that the atmosphere in which

these lapses are bred is that of a mild or pronounced distraction, for which *Zerstreutheit* is the more expressive German term. This attitude is induced commonly by a central absorption in one occupation, while carrying on inattentively some other and more routine activity; or, it may be, by a general lowering of the directive alertness; or by a too anxious oversight; or by the embarrassing claims of a too exacting task; — all in turn profoundly modified and aggravated by a predisposed temperament. For their distinctive appearance and mode of entry upon the scene, we shall presently develop suitable formulæ. In pursuit of this end we require some consistent and pertinent outline of the typical phases of the mind's conduct. The contours of such a piece of conduct would show in silhouette, first, the perception of the situation by the message brought through eye, or ear, or other window of the soul; would show, next, how such message is offered to the appropriate powers for interpretation, and for the elaboration, variably intricate, of the suitable response; and how the bit of conduct is rounded by the fit and skilled execution of what it has been decided to do or say. What is here appropriate is that any one, or the whole of these successive links in the chain of mental reactions, may be sufficiently and intelligently directed by a subconscious type of adjustment. Though the factors properly form

a unit, combining with like units into a series of expanding complexity of kind and number, yet each is naturally viewed as composed of a *receptive* step, accompanied by a suitable *interpretation* through which the process acquires meaning, and of an *expressive* step, which, as the issue of a preparatory elaboration, takes rank as a significant piece of conduct. Ordinarily these components fall into their natural places with ease and fitness; but not infrequently an inattentive attitude towards portions of the procedure induces a peculiar type of straying from the intended path, — some lapse in the ordinary, well-adjusted relations, some dropped stitch in the routine occupation, some unobserved entry of a new relation that is mistaken for the old. The reins are too freely relaxed, or are relaxed at an inopportune moment; our habits take the bit between the teeth, and bring us to some unexpected situation, which the aroused consciousness, promptly or gradually, sets aright.

To obtain representative data for such a survey, I drew upon the experiences of a group of persons[1] to whom I had access; and I present

[1] These personal experiences are contributed by students of the University of Wisconsin, and doubtless do not differ essentially from those that could be collected in other circles; yet they naturally reflect something of the occupations of young men and young women devoted, though by no means exclusively, to scholastic pursuits. At all events, they form my documentary evidence for the general relations and types of frequency that alone are considered in the present *aperçu*.

the collection merely as fairly representative of the ordinary behavior of the subconscious in the trivial, or at times the momentous occasions of daily life. Indeed, their commonplaceness is itself a worthy claim to our regard, as the fact that material of this nature may serve the psychologist's purpose is a tribute to the intimacy of his relation to the natural history of the lowly and familiar phases of mind.

We shall consider first lapses of the motor type. In regard to these, my data emphasize that they occupy the focus of the more common forms of subconscious activity: which means that, though the reduced awareness spreads itself over the whole procedure, it affects more prominently the motor response, the terminal, rather than the initial phase of conduct; or, that once the nature of a situation is normally perceived, our motor habits step in to perform the appropriate (or unintended) response with submerged awareness, possibly amid distracted attention. A peculiarly apposite recognition of this relation is embodied in the popular game of philopœna. Here a premium is placed upon the guarding of one's subconscious tendency to allow the complacent habit of assent or difference to express itself, and specifically towards one individual, in the conventional "Yes" or "No;" or in taking what is naturally or unobtrusively offered. It is surprising how quickly this charge

upon the subconscious becomes lost amid the more vital interests of social intercourse, how readily the hand or tongue is entrapped into the artificially tabooed expression, when the major attention becomes directed to the channels of our real concern. A situation lightly perceived, with still slighter reflection, awakens the natural response. Subconscious *doing* ensues somewhat more readily than subconscious *perceiving;* while the rôle of subconscious *elaboration* and interpretation cannot be so easily appraised.

There is a somewhat artificial occasion which we may utilize to illustrate the natural relation that comes to exist between a sensory clue and the bit of conduct which it commonly arouses.

We may desire to present a form of behavior as our natural unreflective habit, to have pass current at its face-value what actually has no redeeming basis in our native inheritance and training. For this attitude, particularly in its personal and social aspects, we have the apt term of affectation. One may affect a lisp, or a foreign pronunciation, or the broad *a*, or, with the changes of the fashions, an exaggerated handshake or manner of raising one's hat; and always with the constant risk of lapsing back into our really "natural" habits. The affectation attempts to substitute artifice for nature, to guide consciously what should emerge subconsciously. The stage offers professional occasion to cultivate such affectation; and it is sometimes amusing to detect the inexperi-

enced actor in reminding himself that he must no longer use his wounded arm, must continue to limp, or to reel, or to exhibit the manners of old age, or of the ruffian, or of the peasant. This artificial relation is interesting in that it presents in exact reverse the ordinary intrusions of the subconscious into the conscious field. The one formula expresses the fact that when the proper sensory clue is present, we proceed to react to it without intent; and the other that, having only a fictitious sensory clue, we fail to act in spite of our resolution.[1]

The simplest type of subconscious motor response consists in carrying out a more or less suitable and habitual action, while remaining unaware of its accomplishment, — a lapse accordingly not of performance, but of notification of the accomplished service to the conscious self.

A., already retired for the night, leaves his bed to lock the door and finds it securely fastened, and doubtless by his unobservant self; B., work-

[1] The more usual lapse of this temporary type occurs when the sensory clue is slight enough to pass readily in and out of notice. Thus if one has slightly injured a finger, one is intermittently reminded by a sudden pain that it cannot be used for the accustomed service; one steps upon a foot that is not yet sufficiently recovered to bear one's weight; after operations upon one's teeth, one unintentionally disobeys the dentist's injunction not to eat on that side for a day or two. A more inferential instance, with almost no sensory clue, is that of a young man, who, after treatment of his eyes with belladonna, provided himself with the evening paper, quite unmindful of the fact that he would be unable to read.

ing at his desk on a warm summer day, decides to remove his coat and finds he has already done so; C., a clergyman, sends out the contribution-plate a second time, much to the consternation of the congregation; D., a railway employee, changes the position of a switch, unaware that he has already reversed it, and wrecks a train; and so on with considerable variation of scene, plot, and *dramatis personae*. These instances clearly involve a weakened sensory apperception, inasmuch as the second action is initiated because the first performance was so feebly attended to, so distractedly appreciated. Doubtless, more frequent than the complete dropping of the link out of consciousness is the doubt, the query, whether one really has wound the clock, or locked the door, or put out the lights, or posted the letters, or taken one's medicine, or even eaten one's lunch: and one proceeds to verify by actual examination or by some definite memory-clue that it has been done.[1]

I must give at least one instance of this memory-clue and its mode of working: —

A student had been intrusted with some domestic errands on his way to the university. Suddenly, in seeing the word "business" in the

[1] The complementary memory-failure occurs when one is quite certain that one of these habitual tasks *has* been done, and is confronted with conclusive evidence that it has *not*. It is the slight claim that the performance thereof has to our conscious attention that makes possible each kind of failure. It is not so much as lapses of memory, but as inattentive occupations, that the instances are here apposite.

course of his work, it flashed across his mind that he had forgotten the commissions; yet he was not sure. In trying to recall his steps, there clearly echoed in his mind the squeak of the door in leaving the shop. This sensory impression was his surest indication, and proved to be a reliable one, that he had entered the shop and made his purchases.

The instance is apposite in both senses; first, the occurrence of the word "business" arouses the dormant association with the earlier, somewhat submerged conduct; and secondly, the attempt to explore in this submerged region proceeds by the persistence of slight sensory impressions, — faint afterglows, — themselves quite uncertain, and not intrinsically connected with the central and important piece of conduct. As in retracing the more conscious links of memory, so also in the case of the subconscious ones, there is a tendency to reach the focus through some suggestive path from a dimly lighted margin.

Though this failure to make an impression upon the mental register offers the simplest formula of a subconscious lapse, it does not present the most common occurrence, presumably because it requires a fair degree of absorption. The most frequent type is that in which an action — usually partially inappropriate — is performed, or a situation interpreted, under the impression that it is a different, an intended and appropriate one. The

first type is thus the omission of a strand in the network, the second a partial substitution. Here belong the many comedies of errors, trivial or embarrassing rather than momentous, in the lighter scenes of life's dramas. Cases of going off with a stranger's hat or cloak or umbrella, or even his horse and carriage, occur, and furnish evidence that the absence of the signs by which we ordinarily recognize our own may itself go unheeded. The successful functioning of the process appears in the familiar feeling of suddenly missing something, at first not a definite something, — cane, umbrella, parcel, book, shopping-bag, — which one has been carrying, and has forgotten at some absorbed point of the day's commissions. It takes but a slight measure of distraction to submerge these superficial impressions so that they fail to perform the service usually expected of them. Lapses that intrinsically have the same status appear in varied situations: —

Students occasionally go to wrong class-rooms (confusion of place), or find themselves on the way to the university on a Sunday (confusion of time); the college maiden, upon a social occasion, leaves the house in *toilette de bal* with her "History" note-book in hand (confusion of occasion); an actress, making a hurried entrance upon the stage, snatches a whisk-broom instead of a fan (confusion of objects); a clerk, eating a hurried lunch, while eager to start on his bicycle upon an urgent

commission, carries his chair out of doors, and makes the initial movement to mount it as his iron steed (confusion of occupation). The degree of the confusion is presumably and often ascertainably determined by the intensity of the abstraction ; a student may readily fail to notice, in the hasty departure in the morning, that the hat and umbrella that hang at his usual depository are not his, but more alertly looks for and observes the personal recognition-marks of these articles, when he selects his own from half a hundred others in leaving the class-room ; while the distinctive feminine bonnet does not provide the generic similarity conducive to the overlooking of the specific differences.

An interesting variation of this generic type of lapse arranges itself, when the formula changes from a substitution of the wrong act for the right one, or the intrusion of the action into an inappropriate situation, to the interchange of relevant parts of two activities, both operations being partially held in mind. Sometimes the two activities are allied members of what may be regarded as a single occupation ; sometimes the two are curiously unrelated, their connection being only that they are charged upon a common consciousness. Of the former I have quite an array of instances : —

There is the serving of the strawberry-hulls, while the berries are left in the pantry ; the sprinkling of sugar on one's egg and the dropping of the salt in the coffee-cup ; the placing of the

washed dishes in the refrigerator and of the "left-overs" of the meal in the pantry; the attempt to thread one's thimble; the intermittent dipping of the pen in the mucilage-bottle and of the brush in the ink, while writing labels and pasting them on glasses; even the dropping of the watch into the boiling water, while consulting the egg to gauge the time; or, in the excitement of a fire, the throwing of a lamp out of the window while carefully carrying down the bedclothes. The more striking interchanges are naturally those of unrelated activities. The mind is charged with two tasks; and the round peg drops into the square hole. A young lady receives a letter while she is engaged in putting her hat away, and tosses the perused sheets into the hat-box, placing the hat in the waste-paper basket. Quite common is the throwing away of the article while retaining the wrapping, even when it happens to be a caramel and the paper is put into the mouth. Unusual and yet natural is the action of the young lady seated in the train and eating a banana, who, upon the approach of the conductor to collect the tickets, realizes that she has thrown her purse containing the ticket out of the window and has carefully placed the banana-peel in her hand-bag. Yet another variety ensues when the commissions require verbal expression. Then we may encounter such confusions as that of the young lady asking a post-office clerk for "individual salt-cellars," or another demanding of a like official some "gray matter." The astonished clerk may have guessed in the first instance that the inquirer had two commissions on her mind, one for the article demanded and another for stamps, and had uttered

on the wrong occasion the request upon which her thoughts were bent; but he could hardly have surmised that the other was so occupied with an approaching examination in physiology that "postal card" was intended when "gray matter" was spoken.[1]

There are two further groups of lapses in which the motor factors are prominent. The first, relating to the persistence of habits after long periods of disuse, needs but casual reinforcement. It is obvious that if such a habit be resurrected upon an inappropriate occasion, it will result in a lapse of conduct, and further, that if such incongruity between the action and the situation is pronounced, it will require a rather deep absorption to induce it. One must be considerably lost in thought to overlook the entire range of corrective indications, any one of which would ordinarily suffice for an adequate orientation.

I might cite the instance, possibly mythical, of the mathematician who began to chalk some formula upon a black surface which he encountered upon his absorbed stroll, and presently was surprised to find his blackboard moving off (for it was the back of a carriage that had been waiting for its occupant); or that of a young man, who at one time had filled the position of a car-

[1] There is a combined linguistic and psychological interest in these verbal lapses that entitles them to a more detailed consideration. Such consideration is given them in an article, "The Lapses of Speech," in the *Popular Science Monthly*, February, 1906.

conductor, entering in a rather fatigued condition a car that belonged to his old-time route, and beginning at the proper point to collect the fares; and I have others that all illustrate how occasionally slumbering habits reassert themselves, and take control of the actions when the attention is diverted or in abeyance. Such occasions are notably furthered by some familiar factor in the situation — one that arouses an "at home" mood, that suggests an easy response by the half-attention adequate to well-established bits of conduct.

The second type presents the converse situation, which brings it about that the old accustomed reaction is aroused subconsciously when it no longer applies, because a change introduced into the situation is for the moment overlooked. Of this I have before me a pertinent anecdote that is quite as instructive whether literally exact or not, relating that a tourist, reading the papers in a Berlin café, was repeatedly disturbed by men entering and tumbling violently over the doorsill. Seven times within an hour did the accident occur. His curiosity aroused, he made inquiries, and found that these seven men were *habitués* of the place, gathering almost daily for a game of "skat;" and further, that the worn-out doorsill had just been replaced by a new one, in the unexpected height of which lay the cause of the series of mishaps. *Haec fabula docet* that we cross an

unaccustomed threshold with sufficient and yet not apparent attention to our going, to guide ourselves with tentative steps safely over any slight irregularity that may be encountered; but that for the several entrances and exits, literal as well as figurative, that enter into our daily walks, we have ready a decidedly more subconscious, inattentive response that may, in the event of meeting new conditions, set pitfalls in our path.

The relation thus involved becomes even more conspicuous when the acquisition of the new habit is interfered with by the presence of the old.

Any one who changes from the operation of one machine, say a typewriter, to that of another, is quite certain to catch himself intermittently attempting to perform on the new machine a manipulation that is proper only to the more familiar one. When such operations have been largely learned by visual guidance, they more readily command a conscious attention than when they depend upon the less consciously realized muscle-feelings. A striking instance of the latter is the experience of one accustomed to the bicycle in trying to ride the tricycle. The equilibration of the bicycle requires that one lean *with* the machine, to the right in turning to the right, to the left in turning to the left. This in itself is contrary to the normal habit in walking, of saving one's self from falling by shifting to the opposite side, and had itself to be learned with some difficulty, because opposed to another ingrained tendency. Seated on a tricycle, the bicyclist un-

wittingly and in spite of himself maintains the bicycle-balancing habit, and is surprised to find the simple tricycle, which one without any experience with either can guide easily, quite beyond his control. The old habit persists, and will not make way at once — though doubtless it would in time — for the new adjustment. What is distinctive of this experience is the strenuous persistence of the motor habit in spite of a considerable and conscious effort to check it, — a relation that in turn is significant for the comprehension of unusual and pronounced lapses. Another example of such conflict of motor impulses may be arranged by attempting to write, not by direct visual guidance of the pencil, but by following the tracing of the point (with the hand and pencil screened from direct sight) in a mirror or system of mirrors. The new and unusual visual guidance tells one to move the pencil in a given visible direction; but this direction of *seen* movement has always meant a certain kind of *felt* movement; and when that type of *felt* movement is set into action, it proves to be, by the visual standard, completely and variously wrong. The struggle between trying to push the pencil in the direction one *sees* it ought to go and in the direction one *feels* one ought to move may become so intense as to be quite agonizing; and the attempt must be abandoned as hopeless.[1]

[1] It is well to note that in such sensori-motor complexes, the muscle-sense alone, though it has never been taught the accomplishment, has picked it up; and so we *can* write with the eyes closed. This subvoluntary learning is also subconscious; and few persons would correctly appraise their real dependence, in ordinary writing, upon these muscle-feelings.

The sensory aspect of the mental procedure demands equal recognition. It now becomes proper to emphasize that in all these several types of subconscious action, the motor aspects of which have been singled out for analysis, there is also involved a recognition of the situation, a sensitiveness to the suggestions of the environment, that both realizes its nature — though it may be imperfectly or mistakenly — and responds thereto with submerged awareness. We have seen how actions may be initiated anew in oblivion of their accomplished performance, because the sensations which should register their consummation fail to make an impression; but this "absent-minded" insensibility is still more neatly illustrated when an article is deliberately sought, and yet the sensations by which its presence would normally be recognized remain persistently ignored. This is indeed an accepted mark of the distrait.[1] My collection is

[1] I pass by with slight mention instances of simple "anæsthesia," that is, the failure of sensations, through inattention, to enter the perceptive field. I do this because the relation involved, clearly important, is not likely to be overlooked. The inevitable contraction of the sensory field is familiar; and we have only to recall occasions when a question must be repeated, and we confess that we did not hear, at least with the mind's ear, what was said. Such is merely the common and necessary, but here untimely, relaxation in the attention-wave. Occasionally such insensibility does give rise to peculiar situations, which may be called negative lapses, in that, though it would have been natural and profitable for the subject to awaken to the situation, he fails to do so. The most striking instance in my collection is that of a

replete with such lapses: looking for a handkerchief that is held in the hand, for a pipe that hangs in the mouth, for spectacles reposing on the forehead, for the umbrella grasped under the arm, for the pencil stuck behind the ear, for the package suspended from the hand, — these are commonplace, usually of brief duration, but instructive, because of the attitude they present, the important query which they raise, in regard to how and why these sensations, usually sufficiently discernible, fail to qualify for consciousness. The moment of reëntry into the conscious field is easier to detect than the manner thereof. The missing article, that all along lay within the easy field of vision, seems suddenly to assume a familiarity that identifies it as the object of search; the vacant stare or bewildered reconnoitring is transformed into the intelligent look of recognition; the handkerchief held in the hand, or the pipe in the mouth, or the umbrella under the arm, somehow suddenly yields the sensation of its presence. I have, however, one incident in which this realization was logically arrived at: the narrator was seeking his eyeglasses, which he had begun to use only a few months before; and observing that he

young man resigning himself unconcernedly to the manipulations of the barber, after having instructed the latter to trim his hair and shave his mustache, and who becomes aware only at the close of the operation that, through the barber's error, he has had his head shaved and his mustache trimmed.

could clearly see the print before him, concluded that he must be wearing them, which proved to be the fact. What is common to these cases is the peculiar and often unaccountable fluctuation in permeability of consciousness to definite types of stimuli. The failure or omission of perception — both when the mind is not particularly bent upon receiving the impression, and when such is the attitude — is in itself characteristic, and may readily take the form of an erroneous perception, a faulty recognition, or a substitution of a subjective for an objective trait, especially when favored by similarity of observable qualities; and by such modification may expand into other variants of sensory lapses.

A characteristic mode of lapsing of the sensory factor, in conformity to the psychologist's analysis, is revealed in the attitude of obeying or tending to obey an impulse, with complete inability to account for its *provenance*, or with a vague haziness surrounding it, that eventually dissolves under a gradually rising attention. Awareness of impulse or action, without awareness of the incentive thereto, sufficiently formulates the attitude, which is objectified in finding one's self handling something or other with the mental query, "What was I wanting to do?" or, "Why was I doing this?" The principle is important, and finds application in pronounced and abnormal manifes-

tations of consciousness, as well as in ordinary deviations. Illustrations thereof are somewhat elusive; the lapses are evanescent, momentary, but significant.

A young man, busy with his studies while his room-mate is away paying court to the one of his choice, is suddenly seized with the idea that it would be a good joke to disturb the courtship by telephoning to his chum that a telegram is awaiting him at his room. As he proceeds to the telephone, he is met by the landlady, who informs him that such a telegram has actually arrived. He is utterly astounded at the coincidence, but is forced to conclude that upon the delivery of the telegram, two hours before, he had received some vague, yet subconsciously effective indication of its arrival.

In a garden, on a hot summer day, when all energies are relaxed, a mother requests her daughter to get a certain book from the study-table. The request seemingly goes unheeded, for the daughter continues to loll in the hammock. Yet presently she goes to the house and returns with the book and the explanation, "Mother, I happened to see your book, and thought you might want it." Her surprise at the laughter that greeted her remark sufficiently attested her unawareness of the source of the impulse upon which she had acted.

Under fortunate circumstances a considerable variety of such subconscious perceptions may be detected; as a rule they escape observation, or

are beset with vagueness and uncertainty. Indeed, they characterize an attitude rather than an objective confusion, though occasionally they lay bare a suggestive mode of intercourse between the conscious and subconscious movements of thought. To illustrate: —

A student has mislaid her note-book, and after a thorough search fails to find it. The next day, as the telephone-bell rings, she instantly remembers where the missing book lies; for on the previous day, just as she was preparing to go to the university, note-book in hand, the telephone-bell had rung, and in answering the call she inadvertently had left her book upon the telephone-stand. While riding a bicycle, I turned a street corner rather abruptly, and in doing so, I caught a glimpse of two ladies, and mentally recognized one of them as Mrs. S. Upon overtaking them, I discovered that the other one was Mrs. S. The first, less conscious recognition had been referred to the wrong sensory stimulus. Quite similarly, a young man engaged in some absorbing occupation is asked to go to the cellar and bring up some coal; presently he returns with an armful of wood. He had been sufficiently attentive to appreciate that fuel was wanted, but a precise recognition was lacking.

In brief, under comparable circumstances, we may show by our responses that we partly consciously appreciated, and partly subconsciously misinterpreted the appeal to our senses; in part

acted upon an impulse with awareness thereof and of its source, in part followed an impulse, which we took to be spontaneous, in ignorance of the suggestion that gave it birth, — in either case falling victim to the plot prepared for our fallibility by a sensory inattention.

At this stage we reach a formula that can no longer be evaluated in the objective terms of what is done, but becomes significant as an "absent" attitude of the mind, as a failure to orientate, as a temperamental "wool-gathering." The possibilities of defective response to the situations in individuals of such disposition, or to any of us in moments of "brown study," are indeed endless. Their interest lies in the obviousness and elemental appeal of the sensations or simple inferences, which this condition fails to appreciate, in the absurdities which it tolerates. We explain the more ordinary instances by saying that we did not have our mind upon our task, that we were not thinking of what we were doing. Objectively, then, what occurs is not directly significant; what is important is not the lapse, but the inducing condition thereof. A few instances that bring with them a forcible impression of such mental wandering will suffice. They begin with the familiar glance at the face of the watch, that serves to satisfy curiosity, and yet yields no articulate knowledge of the hour, or with the looking up a foreign word

in the dictionary, that a moment later leaves the conviction of having found the equivalent, but without serviceable benefit; and they end with the literary type of absent-minded story, in which the distrait individual rubs one foot against the other and says, "Excuse me," or knocks at his own door and awaits an answer, or, more intricately, in the reflections of the absorbed student, who, dimly realizing the passing of muffled steps outside the door (such as is made by rubber heels which she herself wears), mentally comments, "There goes ——," meaning herself. These instances, as also the related ones, in which we maintain even a protracted revery, while our hands are busy in routine occupation, and we "come to" with a surprised feeling that we have so soon reached the end of our task, approach the status of a half-awake, half-dreaming adjustment to the situation; and the incidents of this nature that could be cited from waking experience are of much the same type as the instances of motor and rational activity in sleep — partly successful and partly misdirected — which we shall presently encounter. For the half-orientated consciousness is not critical, is easily misled by partial resemblances, is sensitive to the suggestion of the moment, and subject to wandering. Through the exaggeration of this feature, the commonplace lapses cease to be commonplace, and gradually acquire the traits of the

more profound and even abnormal alterations of consciousness.

This collection of illustrations thus suggests upon what various occasions, with what different tempos, the mind, freed of its normal guidance, continues to trot with the accustomed gait, stopping, like the horse that draws the milk-cart, at the proper points of call without direction of the driver (who for the moment may be dozing); though, like the horse, content at times with the mere appearance of a service performed, unappreciative in part of its meaning, subject to lapses and inconsequential wanderings. But horse and driver are endowed with very different psychologies; and the relations that become established between them, however intimate and intelligent, reflect the limitations and divergence of needs and interests of the two. It is quite misleading to think of the subconscious that originates lapses, as a veritable, independently organized "psyche," or as a subservient understudy, however partially apposite and wholly legitimate such comparisons may be as metaphorical aids. The conscious and the subconscious (if we may clothe these aspects of our mental life in substantive form) are two souls with but a single thought, for the sufficient reason that they are but one soul; and the unity of their heart-beat is inherent in the organism that gives them life. It is because the silent part-

ner of our mental administration is only the sole head thereof under other guise, in other mood, with other, possibly more playful occupation, that his dominant habits, interests, endowments, experiences, pervade their common business. It is again because the one contributes to the joint undertaking, so largely unheard and unseen, that those who have intercourse with this concern, as indeed the director thereof himself, have little occasion to come into direct contact with influences and data that do not appear upon the books. It has been our present purpose to set forth, and mainly through the minor departures in thought and behavior, how constantly the subconscious participation permeates the entire network of the mental business. It is indeed the peculiar virtue of the abnormal method that it illuminates the rule through the exceptions; and here finds in lapses illustrations of significant principles that prevail in the normal well-adjusted conduct of affairs.

X

SELF-CONSCIOUSNESS

Of all forms of consciousness none is more distinctive than that known as self-consciousness, — the integration of the successive reactions of experience upon endowment into a personal self. Fortunately it is not necessary for our central purpose — the appreciation of the conscious and subconscious development of the self-feelings — to extend our inquiries beyond the functional and into the philosophical field. What the term means for practical ends is sufficiently clear. It stands for an identifying linkage of the successive experiences with their predecessors, an assimilation of the continuum of mental life by which we grow older, grow different, and yet remain ourselves. The feeling of personal identity is thus something deep, intimate, and elemental, and yet participates in the fluctuations and varieties of mental experience. It finds its test in an easy orientation, the identification of the familiarly associated marks of person and place and condition, that consciously or subconsciously slip upon the ready pegs of memory. We keep going an undercurrent of such personal orientation, promptly

finding the place on the momentarily open page of our life; and when we fall asleep or interrupt our labors, we carry in mind the bookmark that tells us where we left off; it is recognized as the same piece of work, to be resumed by the same worker, preferably under the same surroundings. Indeed, to many writers the familiarity of the environment is needed for the adaptation of the self to its occupation; strange surroundings distract, prevent the favoring mood, the "tuning" (*Stimmung*) of the mental instrument to its accurate use. We assort our several characters and capabilities and the qualities and properties which they require, and upon occasion summon the pose and the appropriate subconscious vein needed for the special office, being aided therein by the suggestiveness of the *milieu* and the incentive of the occasion. The donning of the outing suit throws care aside and makes us feel free and active, while the longing of the lieutenant in the distant loneliness of the Orient finds characteristic expression in "all that's meant by evening dress." The self called upon to respond to the post-prandial toast is not the self of the lecture platform or of the wielder of the pen. We may still further apportion our talents, if we are sufficiently versatile, somewhat after the manner of Gladstone, who sat at one desk for his political labors, and became the scholar when he trans-

ferred both his person and his range of thought to another corner of his library.

When one awakens from a disturbed sleep, when the effect of a brief anæsthetic wears off, when the patient is aroused from hypnosis, we observe, and often with remarkable precision, the regaining of self-consciousness. A change of expression, a look about, a recognition of some familiar feature, and the orientation emerges, expanding rapidly to completion: we have come to ourselves. In periods of profound grief, when sleep has for the time cast a quietus on our sorrow, the waking moment, with its realization of the sadness of the self, revives with keenly poignant emotion the depressed personality. Equally vivid is the relief, on coming out of a horrible dream, to find that the awful fate and experiences that the dream-self was undergoing are after all not ours. The variations and vicissitudes of the self-feeling are as subtle as familiar. From the slight alterations in moods and alertness and interest, occasionally foreshadowing more serious and morbid mutations, which we significantly describe by saying, "So-and-so is not quite himself to-day," to the hallucinations of profoundly altered personality, there is a curiously various range of modification. At those significant periods in youth, when the character is undergoing its most radical development and maturity is about to burst forth, these fluctua-

tions may be impetuous and intense. Excessive self-denial and despondency may alternate with causeless abandon and hilarity, and all sorts of wild and daring schemes may be seriously contemplated. Many adolescents, in passing through this stage, themselves feel that profound changes are going on within them, perhaps bringing their perplexities to a physician, with vague fears and suspicions, not uncommonly of an impending loss of mind. To such an one, a wise counselor (this in a tale, but it may be transferred to real life) brought consolation by saying, "Yes, I think that is likely; and I predict that you will be well satisfied with the mind you are about to acquire." Such consciously felt doubts as to our own personality are not dangerous, scarcely abnormal. They really emphasize the retention of the unity of feeling on the basis of which the change makes itself felt; and it is the very want or perversion of that underlying self-feeling that constitutes the motive of a really lost or disordered personality. When one can reason as did the Scotchman, who, overburdened with the cup that inebriates, fell from his cart by the roadside, and at length arousing himself and seeing only the cart, mused: "Be I Sandy MacAllister or be I not Sandy MacAllister? If I be he, I have lost a horse, but if I be not he, I have found a cart,"—we may be sure that there still remains a service-

able basis of self-feeling and a normal desire to orientate and reconcile the present with the past. It is these normal fluctuations and their foundation in the physiological and psychological organism that are central in our present considerations.

Assuredly a prominent, possibly predominant portion of the groundwork of our personality is reared upon the material of the subconscious. At the very base of all lie those organic sensations which, however vague or indescribable, yet contribute to that warmth and intimacy of the feelings that stamps them as our very own. "And thus," says Professor James, "it is finally that Peter, awakening in the same bed with Paul, and recalling what both had in mind before they went to sleep, reidentifies and appropriates the 'warm' ideas as his, and is never tempted to confuse them with those cold and pale-appearing ones which he ascribes to Paul. As well might he confound Paul's body, which he only sees, with his own body, which he sees but also feels. Each of us when he awakens says, 'Here 's the same old self again,' just as he says, 'Here 's the same old bed, the same old room, the same old world.'" The sensations yielded by this body-consciousness do not, as a rule, come close to the focus of clear awareness, but compose themselves in the background against which our mental activity makes itself felt. The very concentration of a healthy

mind upon the active doings of a busy world prevents any appreciable share of the attention going to these rudimentary sensations, the most useful function of which, we have noted, relates to the warning which they give, when disturbed, of an impending danger to the welfare of the organism. In sleep, however, when the outward stimuli are removed, these suppressed sensations have freer scope to be represented in the texture of our mental industry. All students of dream-life recognize as a prominent class of dreams those that reflect the intrusions of organic sensations. Dreams of flying have been referred to flutterings of the heart; and all the various feelings of position, tension, digestion, respiration, that act but vaguely and massively, may determine the dominant tone of the dream-symphony. It is the profound modification of these feelings of well-being and ill-being that may become the starting-point of the disorders of personality; the anæsthetic person, like the dreamer, feeling a lapse or a change in the sensations coming from the skin, invents the hypothesis that the body has become as glass or lead, or has even ceased to exist; and the normal person, by the same token more rationally interpreted, simply concludes that he is out of sorts; — a feeling of vague, organic change. Like all elemental data, these basal self-feelings resist formulation; their efficiency as a physiological basis

for maintaining our own identity, and as conditioning the fluctuations of our personal euphoria, is clearly established, and sets a practical limit to our analyses.

About this central, individual, bodily self there forms a cluster of expanding selves, concerning which Professor James has written with equal interest and lucidity.[1] The personal self develops peculiarly intimate relations to the clothes that deck the visible ego; to the home and its possessions that express alike the individuality of the owner's taste, the reward of his material success, and the sentimental attachment that goes out to familiar household gods. It takes under its protecting wing the feelings for kith and kin, for those who share and make the inner sanctum of the family hearth. The wealth of emotional life attaching to this personality still leaves room for an absorbing devotion to one's life-work, the pursuit that matures the professional self. The most significant expansion of the self, without which, indeed, personality would lose its distinctive aspect, is the social one. Other selves exist in and profoundly influence our personality, and we cherish their approval, guide our conduct by the social sanction, and feel keenly any attack upon

[1] I refer to Professor James's well-known chapter on the "Consciousness of Self" (*Psychology*, chap. x, particularly pp. 290–316).

our honor, any slight to our reputation, any disapproval of our social conduct. Nor are we confined to one consistent social self, but offer a different aspect to our fellow men as host in our own home, as a club member, as a voting citizen, as a man of affairs, as an incognito tourist, as a devotee of gun or rod, or the garden, or old china, or rare editions, or whatever may be our private fad. Different codes of propriety, different manners of address, obtain in these several phases of our social ego; and each we assume as naturally as we adopt one style for our published writings, another for our formal, and still another for our intimate correspondence; as we key ourselves to the requirements of diction suitable to public speaking, choose our words less formally, but with care, when we find the rest of the table listening to our talk, and are relieved to drop all ceremony and descend to the easy-going give and take of good-natured *camaraderie*. A further complex self-expansion, embracing personal, social, and the subtle but influential moral and spiritual sensibilities, leads to the shaping of character by ideals; the determination of the kind of person we should like to be. With this intricate equipment of versatile personalities, with a wonderful blending of real and ideal strains in their pedigrees, we launch our character upon the world, sensitive to its encouragements and rebuffs, partaking of the

common personal traits of our family, our race, our nation, our locality, our times, and yet permeating the whole with that individual tone and temper that makes the delineation of personality the comprehensively inviting theme of historian and biographer, of poet and dramatist, of novelist and essayist, of moralist and psychologist.

With this range of personal potentialities ever influential, though in frequent retirement, the concrete expression of self that we severally achieve is determined by constant relinquishing in one direction and another, much yielding to fortune and circumstance, along with such devotion and perseverance to definite purpose and cherished ideals, such control of the immediate world without, and of the still more intimate world within, as we can, step by step, command. As considerable a share of this intercourse goes on in the low lights as in the high lights of consciousness. Self-knowledge has been esteemed by sages from Pythagoras to Pope; self-examination is embodied in religious cults and counseled by the practical moralist; while mutual confidences of petty personal likes and dislikes, virtues and foibles, enter noticeably into the small-talk of social acquaintance. The self-feelings that impart motive power to all this intercourse and development likewise emerge with sufficient clearness into conscious ken to bestow an easily comprehensible significance upon

the range of emotions, all of them with decided bearing upon personal satisfaction or dissatisfaction, all raising or lowering or subtly affecting self-esteem: pride, vanity, arrogance, triumph; diffidence, shame, anguish; estrangement, blame, envy, hate, anger, contempt, resentment; pity, sympathy, deference, propitiation; ingenuousness, constancy, duplicity; — these suggest distinctive attitudes of our self towards others, or of the self-reaction within us to condition and occasion.[1] Yet there enters into this personal life an equally effective range of subconscious factors. Not only do mood and disposition, sympathy and antagonism, contribute their influence to the fluctuations of self-feeling without definite awareness of the motive of our cheer or dejection, but throughout are the feelings that introspection discovers, surrounded by an invisible retinue of attendant satellites that impart to human character the subtlety of its puzzling sensibilities.

Most of these resist analysis quite as much as do the delicate fragrances of the flowers of field or garden; and to summon them to mind, we can do

[1] The facial expression of this extensive repertoire of emotions has been realistically displayed in a series of no less than eight hundred drawings made by a facile artist from a single model. The facial poses thus recorded run the gamut of personal emotions, often with fine distinctions, but are by no means exhaustive of the psychological messages of which the play of human feature is capable. (Rudolf: *Der Ausdruck des Menschen*, 1903.)

little more than to recall the actual occasions of their presence. We carry with us, without thinking about it, the feeling of being well-dressed ; [1] we are vaguely aware that our presence is agreeable, an impression that serves as a half-conscious incentive to put our best foot forward ; that So-and-so is holding aloof, and another is insincere, and still another patronizing in manner; and yet do these effects, to which the quality of our self-esteem is so sensitive, convey their message in language without words, — an impressionistic blending of colors upon the palette of our personal emotions. It requires the unusual disposition of a poet or dramatist to bring to expression what, once expressed, finds intelligent sympathy. So complex, so deep-seated, so emotionally suffused a type of consciousness as that concerned with self is intrinsically the issue of a subtle compounding, that affects mood, trend, and condition rather than conscious thought; it serves not merely to keep alive and normal the feeling of a permanent selfhood, of a constant character and not a jumble

[1] I have called attention to the fact that positive feelings of this type are never as distinctive as negative ones: social conformity does not bring at all as strong a feeling with it as social infringement. A man who has forgotten his necktie feels almost as deeply mortified as though he had violated the Decalogue; while to be out of style, or to oppose unreasonable usage, seems to require a type of heroism almost rarer than that to which we justly give honor. It is in such infringements that the intensity of the personal and social self-feelings may be realized.

of symptoms; but also serves to incline the spirit of imagination to this, rather than to another channel, to gently guide fancy as well as judgment, prejudice as well as reasoned preference.

With this general appreciation of the complexity of the self, of the manner of its responsiveness to conscious and subconscious suggestions, we may profitably proceed to certain relations of the self-feeling that have been but casually included in our survey. Of the rivalry of the several selves, and of the practical development of the one by partial renunciation of the others, often with life-long regret, I have briefly spoken. These various selves that we might have been are by no means so wholly suppressed in the self that we are moderately resigned to be as is unreflectively supposed. These starved or suppressed phases of our character still maintain an unacknowledged existence, and occasionally gain a chary hearing, or startle our sober self by writing a portentous message on the wall. There seems no better way of realizing the potency of these lurking pretenders to a place in our mental court, than by recalling through objective and subjective evidence the several selves that we have outgrown. The awareness of change in the self-feelings that we come upon when we are reminded what manner of person we formerly were, is largely inferential, however intimately reenforced by the warmth of recollection and rich-

ness of detail that make the old self continuous with the one we now acknowledge. The reading of old-time letters which we ourselves wrote is thus an emotionally different experience from that of reading those of some one else, however parallel the life-histories of the two. Yet many of us must reconstruct the outgrown selves largely from scattered memories saved from the transformation, with which we try in vain to associate that intimate vital feeling that made the experiences so real and so momentous, while they engaged the actual interests of the self of the period. Such sympathetic communion with our older and with our other selves, like many endowments, varies widely in accuracy and extent; to construct an autobiography is as incomprehensible an achievement to some, as it represents for others the one talent they can exercise best of all, as well as the source of their comprehension of others' lives and of sympathy with their joys and trials. In addition to the several selves that have found lodgment and intermittently ply their trades in our actual personality, we must thus take account of the cumulative vestiges of the selves we have outgrown, recognizing, as we do so, the organic integration of them all, through which the unity of a life shines forth. Doubtless it would be an exaggeration to say that it is as difficult to add a quality to our character as a cubit to our stature; yet the exaggeration

would serve to enforce the psychological continuity of self-development that is as distinctive as the successive mutations of a growing self are momentous.

While much of this strongly emotionalized experience, which, more than knowledge, makes us individually what we are, comes into the sphere of consciousness, particularly in moments of self-analysis, a still larger and more vital part lies submerged in the subconscious areas of character and disposition, effectively modifying the organic efficiency and the quality of our talents, yet so subtly, so fluidly, as to impart an unanalyzable genius to all that is most worth while in what we feel and think and do and are. It is by no means true that the emotional aspects or ingredients of character, as indeed of the thought-habits of the mind, are coincident with those more particularly expressive of subconscious determination; but it may be maintained that such emotional factors of our psychology penetrate more fundamentally than do the intellectual ones into the fibre of our being, and so are more intrinsically influences of the subconscious order, more submerged, more intuitive and less revealed.

Peculiarly important for the development and assimilation of experiences as our own is the aspect thereof that is related to the will. When our mental machinery is directed to new experience, is bent to incorporate a new area of knowledge,

to acquire a new interest, we have in typical cases a sense of effort by which we have aroused the powers to action, and assimilate the new by means of the curiosity and capacity which is the measure of our efficiency in that direction. The sense of effort accompanying the mental output is very real at the time, and while it is fresh in mind is an unmistakable token of the personal tone of the achievement. It is our work; the pride in that which is good is ours; the discomfiture or regret in that which exposes its shortcomings likewise our own. An author, if of that temperament, may feel the praise or blame of critics as deeply as any other disparagement or commendation of his personal being. The work remains the creation of his will. Yet time, which psychologically means the fading of the memory-images under the rivalry of new experiences, along with the modification of the remembering self with the vicissitudes of growth, works its familiar transformations in this field as well. We reread our own books with quite an objective interest; quite renounce some of our earlier efforts, finding it difficult to regard them as indeed the expression of the self which we have come to know so well; and we can appreciate the attitude of Sir Walter Scott, who, on hearing some of his works read to him, exclaimed, "How proud I should have been to have written that!"

The hall-mark of our own effort contributes

essentially to the assimilation of our self-experiences; they are ours by the feeling of activity of a warm, personal kind that embodies the association of their relation to the self. Yet this effort need not be of a decided degree; it may degenerate to a mere nod of consent, the issue of a permit to enter the realm of consciousness by the authority of the self that is supposed to control this domain. We gave the attention — itself a motor effort-like attitude — that enabled the experience to be ours; and the resulting tinge of personal coöperation begets a memory-image that incorporates it with our own self-expansion. As a rule, we thus distinguish what we have seen from what we have heard or read, and likewise from what we have dreamed or imagined in fancy. Such differentiation is one of the popular criteria of sanity, which thereby bears witness to the fundamental character of the trait. Naturally enough we are occasionally mistaken; and it is said that by repeating our fictions sufficiently often, we actually get to believe them ourselves. The relevant part of these illustrations lies in this: that the effort, the voluntary consent, supplies the password admitting our experiences and the memories thereof into the home-circle of our developing selves. They are issue of our minds, outgrowths of our self. This principle is even more effective on its negative than on its positive side. It suggests that if we

could get experiences, or memories, or sequences of sensations into our cerebral tissue without passing the sentinel of consciousness, we should in all likelihood deny them that recognition of personal relation to us, even though we were compelled to recognize them as basking with proper warrant in the private corners of our mental hearth. And yet, to find them there and to recognize them as intruders, there must equally remain some adequate domination of the ruling self that rejects the invasion. The full import of this rather complex relation will appear in its application to abnormal phenomena; its present pertinence is to emphasize that the peculiar personal tinge of experience springs in part from the will-like consent that accompanies the normal assimilation of experiences of the self.

The breadth and depth of our self-consciousness having been thus surveyed, not alone introspectively as the reflection of the moment's occupation, but retrospectively in its serial metamorphoses, and comprehensively in its composite versatility, it remains only to reënforce certain central considerations of our analysis, and to present in one further relation the personal *Leitmotiv* of the psychic life and the ever-potent embodiment therein of the subconscious constituents. From the training and adequate service of a considerable group of humble but important functions quite without

need of being dissolved in the medium of consciousness, to the subtle moulding of personal and social character in essential dependence upon subconscious support, the range of efficacy of our hidden talents has been brought to light; and this influence has appeared as of equal indispensableness, in the highest as well as in the lowest types of mental endeavor, with intent, conscious, analytic pursuits. It thus appears that man was not meant to live by consciousness alone, and that much of the admiration that it is natural to accord to human achievement, that finds its culminating expression in the hero-worship of genius, is in reality a tribute to the subconscious. The racial and national expression of this influence appears in the form of traditions, which, however concretely embodied in the vestiges of departed greatness and in the tribal and national epics that preserve the cherished story, survive even more vitally in the subconscious maintenance of ideals, and in the shaping of personal character from generation to generation by consistent standards. It is thus in the environment moulded by tradition that our present selves find a potent condition of their own development, and the perpetuity of the world of mind, of spirit, and of ideals finds its most certain, most organic surety. It was these influences, likewise, that imparted unity and continuity to the great civilizing movements of mankind in art, in

architecture, in music, in poetry, in literature, in science, in philosophy, in invention. The comment (by Mr. Leland), that the "man who built a Romanesque cathedral worked by the suggestion of minds which went before him," may be extended to all notable forms of human endeavor. Styles, schools, creeds, philosophies, come and go; and the allegiances which they command flourish by the traditions that they embody, that give sympathy of aim as well as concordance of expression to the brotherhood of disciples.

In all these cultural sequences of human destiny the great momentum of subconsciously absorbed and subconsciously transmitted traditions vivifies the onward movement, and leaves its indelible impress upon the history and upon the quality of the race. It does so by compensating the advances that result from the penetration born of reasoned concepts, the practical mastery that is the reward of an expert rationality, with the intuitive insight that, though subject to waywardness and lame in defense, is keen-witted for the true, devoted with strenuous conviction to the right, delicately sensitive to the beautiful. Without the cumulative inheritance of tradition, as also without the bold flights of imagination, reason would proceed at a snail's pace; for all art requires alike, critical acumen and skilled, deeply ingrained proficiency. The scientific spirit — the most finished expression

of conscious activity — finds its saving balance in the impressible imagination, — the richest quarry of the subconscious. In all character, as in all achievement, there are talents more efficient than those consciously exercised, powers deeper than those we wittingly command, that enable us to do better than we know how. This recognition has ever been present in the conception of genius, picturing its incomprehensibility as an unquestioning response to an inspiration, as a surrender to the natural forces that seethe within, though reënforced by experience; as in its labors indifferent to means, oblivious to the why and wherefore, but firmly possessed with the imperative importance of its message, and leaving lowlier tasks to lesser minds that are constrained with painful deliberation to marshal in simple order the limited resources at their command. In this appraisement of the constituents of character, of the service of ideals in shaping culture, as of the quality of talents that further mental achievement, do the traditional wisdom of the ages and the analyses of psychology find common issue.

PART II

ABNORMAL

I

THE RANGE OF THE ABNORMAL

Characteristic of modern psychological method is its march upon the practical problems of mind, with the combined forces of three distinctive modes of approach: the first assails the inquiry with all the elaborate equipment of adult introspective observation supplemented by ingenious experimental control; the second fixes its energies upon the origin and gradual unfoldment of processes and endowments, and upon their simpler, more direct, more lucid, and less intricately developed stages; the third proceeds, in part, by strategy, by discovering exposed places at which what is ordinarily guarded and concealed is in a measure laid bare. Yet it is more than this: the abnormal method itself becomes experimental when it deliberately sets problems and determines conditions that it is able to impose upon favorably disposed individuals, or to observe in the variations spontaneously offered by nature when seemingly in an experimental mood. The study of the abnormal thus extends the survey of the natural history of mental products and processes, and extends them particularly in the direction of

pronounced varieties, deviating forms, altered relations of functional parts; and it likewise in a directly analytical temper lays bare relations that are inherent in germ in the normal mental life, but in their abnormal types reach a far more intense, more contrasted, and more directive expression. In complement to the comparative or developmental method of approach, it studies the phenomena in their over-ripe decay, in disorder and dissolution, and most specifically in their exaggerated kindred, in the systematic rearrangement of constituents that the accidents of natural variation present, as if to meet the requirements of the inquiring psychologist. In concordance with the experimental method, it utilizes in much the same spirit the variations which it arranges or finds arranged, everywhere interpreting phenomena and elaborating principles with central reference to their bearing upon the standard relations of the mental life.

It is the method of the abnormal that is to be applied to the study of the subconscious. Such application results in an extension of the range of subconscious phenomena, and again in a richer, more comprehensive interpretation of the relations that have already been found to obtain between the conscious and subconscious manifestations of our normal psychological endowment. In such application the term "abnormal" should be liber-

ally interpreted. It does not intrinsically carry with it the imputation of disease; for that the word "morbid" is more precise. Its underlying connotation is that of pronounced or significant variation from rather well-defined, fairly accepted norms. With waking regarded as the normal condition, sleep becomes abnormal; with sensibility to pain and to the ordinary stimuli of sight and hearing as the normal state, anæsthesia and intense absorption become abnormal; in deviation from the normally elastic emotional temperament, responding readily to the natural excitements of grief and joy, the persistently depressed tone of the melancholic is abnormal; in comparison with the slowly developing and limited capacity for the manipulation of number-relations or of musical expression, with which most children are endowed, the performances of an arithmetical prodigy or of a precocious musical genius are abnormal; in contrast with the recognized inability of the average man to rescue from the subconscious the vague associations of lapsed memories, the devices of those who are able to perform this sleight-of-mind are likewise abnormal. The mere uncommonness of a phenomenon has little relation to its significance as an abnormal variation; the abnormal is not the monstrous. Dreaming is extremely common, but presents a profoundly significant variation from the normal flow of thought. Lightning

calculators are uncommon; but, however readily their marvelous performances excite popular curiosity, they arouse psychological interest in so far as they serve to impart some insight into the processes by which such results are obtained. The hypnotic state is rather easily induced, and in some form has for ages excited observation and astonishment; but it began to be profitably studied when pertinent analysis indicated the significance of what curiosity had merely confused. It is not the mere fact of difference, but of a difference that yields in analysis a knowledge of its nature, that gives to the abnormal its true significance. It is because the abnormal presents an instructive variation from the usual relations of things, that its study illuminates, and enlarges our conceptions of the complexity and marvel of the normal. It acts not only as a microscope, bringing minute features within the field of vision, but in addition, like the differential staining of the histological specimen, it presents in contrasted outline the delicate tracery of tissue that to the unaided eye must ever remain invisible.

It is of decided importance to bear in mind that abnormal conditions do not occur capriciously; they follow systematic though variable radii of deviation. They require above all a favorably disposed temperament, as well as a momentarily disposed occasion. The occasions are likely

to be definite in character, and the phenomena as a whole to fall into distinctive, yet complex groups, requiring for their development the concurrence of intellectual, volitional, and emotional states.[1] Yet, whatever may be the nature of the outward initiative, stimulus, incentive, or shock that induces the abnormal mental condition, the result of such exposure is by no means predictable, but assumes this or that variety of aspect, this or that grouping of dominant traits, by reason, in the first rank, of the inherent character, endowment, temperamental set, and momentary condition of the reacting mind. It is because the conditioning factors that dominantly influence the abnormal liabilities of the mental life are so closely and intricately affected by the most complex aspects of the personal, social, and spiritual welfare, that the resulting phenomena

[1] This only in their psychological aspects: unquestionably, abnormal conditions whose most distinctive traits are mental in type have equally pronounced physiological determinants. Indeed, there are no more valuable data contributory to the principle of interrelation between mental procedure and brain-states than the subtle and distinctive alterations of the former induced by direct fluctuations of the latter. This argument reaches its most definite force in terms of the mental alterations produced by drug-intoxication, by brain congestion or inanition, by localized injury, and by gradual degeneration. It is only because this mode of approach at present affords but minor analytic insight into the nature of the abnormal mental experiences of the type in which our central interest lies, that it is relegated to a subsidiary place.

are characterized by a seemingly irregular variety of traits. In these, analogy and parallelism can be established only in so far as we succeed in deducing consistent standards of interpretation. With this as our aim, and the principles deducible from the exposition of the subconscious in normal life as our guide, we may enter upon the field of the abnormal. We are prepared to find our conclusions affected by many hypotheses, and our explanations, by reason of their imperfection, at times descending to the level of description; yet through the extension of our vista by the inclusion of the field of the abnormal, there results an enlarged sweep of outline and an illustrative richness of detail, which are in no small part the measure of our insight into the recondite ways of human mentality.

The division of the present exposition into two portions — considering respectively the functioning of subconscious processes in the normal and in the abnormal mental life — is thus justified by more than convenience; it reflects an intrinsic distinction of some importance. In the preceding sections, subconscious processes are presented as contributory to the central mental occupation; such occupation is guided by a directive purpose that is fairly deliberate, that has been critically judged, and proceeds with decided alertness and with awareness of means and end; or in so far as it

deviates from this, it does so in degree rather than through any change of status. When, however, we have to consider a mental movement that is characteristically expressive of the dominance of just that group of activities that in the former case is subsidiary, we reach a formula that, though subject to decided variation in the value of each of its components, comes to represent a distinctively different type of equation. It must also be admitted that the line of contrast thus drawn between mental procedures, in which the dominant tone and issue is a conscious one, and such as are conducted under the leadership of subconscious relations, does not fairly coincide with the distinction between the normal and the abnormal in the usual and commendable sense of these terms. Yet each distinction in large measure overlaps the other; and the two represent concordant methods of approach, not opposed points of view. Hitherto the central attention has been directed to phenomena that are fundamentally the expression of conscious elaboration, though with substantial support of subconscious assimilation. The attention is now to be transferred to at times a converse, at times a differently distributed assignment of parts, to a critical study of the phenomena that result from a quiescence of what is normally active, of a prominence of what is normally subsidiary, of an independent functioning of what is normally

restrained, to so altered an ordering of the mind's occupation as to demand a different mode of apprehension, a different bent of the inquiring temper.

Clearly the standard condition is that of waking thought, — a variable alertness of mind, responsive through the open highways of the senses to a complex and ever shifting environment, utilizing in a purposive manner the accumulated memories of former acquisitions, and following a set plan of organized effort. Naturally this rather strenuous formula may lose its sterner features and yet remain equally typical; and naturally, too, there is a range of transitional states, not wholly conforming to the formula of waking life, not wholly assimilated to the converse distribution of mental parts, for which no single name is adequate. Were such a term available, it would serve as the pertinent heading to this portion of our descriptive survey. Its most general approximation is the term *dreaming*, — specifically applied to the recallable mental occupations of normal sleep, but readily extended in consistent analogy to a larger range of mental experiences under dissimilar occasions. It will accordingly be natural and profitable to begin the survey of abnormal types of subconscious action by a somewhat intimate study of the significant world of dreams. From this familiar and intelligible starting-point, the group

of deviations from the normal, most relevant to the study of the subconscious, radiates in several directions, which together represent the natural history of the divergent phases of consciousness. States of distraction, of revery, of ecstasy, of marked automatism, of exaggerated suggestibility, of artificial dissociations, of somnambulism, of intoxication, of delirium, of hallucination, of altered personality, — these indicate the more important abnormalities, in which subconscious procedures figure prominently, and require differently constituted formulæ to represent the several modes of participation in their nature, of conscious and subconscious factors. But what our terminology thus readily labels, our psychological chemistry has serious difficulty in analyzing; such analysis is the task to which the succeeding sections are devoted.

The argument that is to be carried in mind to impart a singleness of purpose to the presentation of distinctly diverse phenomena may be briefly set forth. Normal mental activity is the complex resultant of a considerable range of systematically coördinated factors, each contributing a distinctive element to the whole; the abeyance, defect, or distortion of any such factor, or related group of factors, is likely to occur by momentary incapacity or constitutional disorder of certain gearings of our mental machinery. So complexly developed

an organism as the human mind is certain to exhibit the defects of its complexity, to be liable to disarrangement along the cleavage-lines of its organic growth, to show the effect of strain or of dropped stitches, at the seams, so to speak. Wherever there is mental maladjustment or disorder, it appears partly as an abnormal relation of consciousness; yet the larger field of mental derangement may be dismissed from our survey. Our concern is profitably with such deviations only as retain a decided measure and type of relation with normal consciousness; their affiliation must be predominantly with the normal; the standards by which their peculiar status is to be appraised remain those of the normal mental relations. We thus disregard the entire range of the insanities in the more technical sense; and we continue to limit attention among the remaining phenomena of mental abnormality, to such as contain some illumination of the participation of subconscious factors, — yet of the subconscious in that more comprehensive sense which the combined considerations that have thus far occupied us have jointly established. More particularly have we noted how closely the subconscious movement of thought is related to the subvoluntary direction thereof, the issue in each case of a relaxation of oversight, of a falling back upon the more spontaneous impulses. Again, we have noted the possi-

bilities by exaggeration of normal susceptibilities, of pronounced, in their extremes even startling, alterations of consciousness. Decided and systematic insensibility to the environment, a marked loss of the awareness that normally accompanies thought and expression, these and other abnormal subconscious phenomena are but exaggerations of what slightly and momentarily occurs in the ordinary range of normal experience. In addition, the personal aspects of consciousness, the coherent integration of experience, is itself subject to lapse and disorder, and thereby enlarges the range of abnormalities of consciousness. In brief, in whatever direction we are able to record variations of consciousness that still maintain vital relations to just those considerations that thus far have marked the channel of our course, shall we continue to profit by their record and systematic study. Yet it would be misleading to posit such a course as a wholly logical one, with the goal visible from the start, and each turn in the route made necessary by the one before it. We must admit that the whole is an empirical procedure; we recognize certain interesting points in the general area of our survey, and lay our course to include them; yet we do this not at haphazard, but for assignable motives, with consistent interests. Our selection of topics and the perspective of emphasis thus become intelligible, as a rather zigzag tour

through France would become so, when once we understand that the plan thereof was determined by a central interest in Gothic architecture, and when we comprehend that the historic influences that determined the location of the great Gothic monuments are themselves accountable in terms of human motives and fortunes, as deposits of great tidal waves of culture. With such inevitable mingling of plan and expediency, such compromise of ideal procedure to practical knowledge, may we follow the trail of the subconscious in its meanderings through the realms of abnormal psychology.

II

DREAM-CONSCIOUSNESS

Dreams are such vivid and familiar, and yet impressive mental experiences, that they possess a unique advantage as a means of insight into the nature of abnormal movements of the mind. However ready to admit the dullness and vapidity of the dreams of others, each one finds in his own dreams an individual interest, and is attracted by their glowing realism, their brilliancy and daring. This personal appeal of dreams, however natural, has ever distracted and continues to distract attention from their psychological import. Indeed, from the dawn of history, and with unbroken continuity from primitive peoples to the unschooled of our own civilization, have dreams been appraised as portentous revelations, with their every detail curiously significant. From the interpreter of dreams of this early stage of culture to their psychological study is a long, long step, — a common theme, but a world-wide difference in point of view.

Two sets of data are particularly in point for our present pursuit: the first relates to the nature and occasioning inducements of the dream-state;

and the second to the characteristics, positive and negative, of the movement of thought in dream-consciousness, particularly in terms of the change in value of the several contributory factors in dreaming in contrast with waking occupation. As to the former, in spite of much apposite knowledge in regard to the physiology of sleep, psychology must practically take up the problem single-handed; there are interesting hypotheses and some corroborative observations [1] concerning what may go on in the nervous system during dreaming, but nothing comprehensive and demonstrable. It will suffice to bear in mind that dreams occur typically (though their occurrence at other periods is well established) in lighter sleep, particularly just before awaking; that they pertain to transitional states, and by virtue of this trait may, under favoring circumstance, be reinstated in the waking memory, and surveyed and recorded by the light of retrospection; [2] that they

[1] Certain of these possess decided psychological value, and have been taken into account in formulating the status of the dream-consciousness here set forth.

[2] There are two problems that properly present themselves, but cannot be here considered: Do dreams persist in all stages of sleep? and, Do the dreams that we can recall adequately represent the whole range of dream-life? The position is substantially warranted that a sleep frequently occurs that submerges mental processes so deeply as to sink them far below the level of any ordinary mental awareness, and may legitimately be termed a dreamless sleep; and again, is the position warranted that accepts

are of brief duration, either lapsing into deeper and practically dreamless sleep, or finding their dissolution in waking. Indeed, as will appear in the sequel, the very same disturbance that gradually or even suddenly awakens the sleeper sets off a train of dream-thought; naturally the dreamer, unaware of the true sequence of events, is surprised at the fitness of the *dénouement*. Most characteristically does dreaming present a relaxation, a pronounced abeyance of the vigor and of the grasp of mental construction; the change is not one of degree only, but even more distinctively of type. In dreaming the mind surrenders its directive guidance, and its sequences of occupation are more at the mercy of casual intrusions and inconsequential fluctuations. Nothing is less predictable than the content and sequence of detail of a dream; but the quality of its gait and the physiognomy of its features conform to generic types that, though difficult of description, are readily pictured in the light of our individual dream-experience. It is also significant that states of partial, undeveloped dreaming partake in minor

the testimony of memory, controlled by the usual experimental precautions (in this instance, the recognition of the many dreams that occur, but are forgotten), as worthy of the same regard as attaches to the careful introspective account of any of our mental procedures? This is not merely saying that we must be content with the best evidence available, but it distinctly places a high introspective value upon the data of dream-remembrance.

measure of these same characters. Prominent is the contraction of the field of attention; we stare vacantly or half close the eyes in abstracted revery, and for such moments, as well as for sleep, seek quiet seclusion, empty the mind of all concern, close the windows of the soul, relieve the body of confining sensations or tension of position, and idly drift into Nirvana. It is well to recognize the physiological aspect of this condition. We may be overcome by drowsiness or by mental wandering in spite of resistance, as, relaxing in the genial warmth of the fire, we yield to idle pictures in the flames or to soothing slumber; and yet unusual effort or excitement, equally with a specific stimulant, such as coffee, may counteract these physiological inducements and keep us awake and at work, though with intermittent tendency to abstracted wandering. Often when we use the lash, we are compelled to admit, upon reviewing our work the next morning, that it lacks the vigor of our more alert moods. This less brisk direction of the mind's flight, this lesser control of its flitting and perching, induces a greater responsiveness to the suggestion from within.[1] Accordingly when we dream, waking or

[1] From without also, so far as the condition remains responsive to objective stimuli. This is ordinarily most limited in revery or sleep, but is marked in hypnotic states. The suggestibility is a distinctive trait, whether exhibited towards one set of influences or towards another.

sleeping, we throw the reins to the natural motives of our mental progress, settle back upon our inner resources, lose the orientation in real time and space and condition, and passively receive the issues of our spontaneous musings. In sympathy with this attitude, this more natural and more primitive type of consciousness, with the mind thus eased to the abandon of leisure and *négligé*, dreams develop, transforming familiar, or it may be neglected material into constructions of pronounced style, the genius whereof we must now seek to portray.

The most conspicuous trait of the dream-movement we commonly describe by calling it fanciful, fantastic, the issue of a vivid imagination, — an unbridled imagination, as the phrase has it in apt simile; for it is not the mere exercise of the imagination, of which there is plenty in waking thought, but of a fancy-free, unrestrained use of it, following any trail or none. The bond of sequences is to the logical standard a strange one, uniting by a system of curious, astrology-like correspondences the seemingly unrelated details of diverse realms, and making of the whole a blind or suggestive medley of sense and nonsense: all this with a gay variety that emphasizes, now the sensible, and again the nonsensical, now the obvious, commonplace sequences, and again the weird, bizarre ones, with much traceable allegiance

to waking experience, and still more to the individual endowment of the dreamer.

If this be adequate to recall the occasions, the affiliations, and the spirit of dream-consciousness, we may proceed to unfold its relations to waking thought, and to the central theme of subconscious participation. The same step has already been taken from the converse side. To appreciate the flighty, imaginative factor in waking thought, we drew upon the analogy of dreams; to secure an impression of the gait of the imagination in dreaming, we now proceed to trace its similar steps in normal progress. It would nicely meet the psychologist's needs, if it were possible to take a record of the train of ideas as the waking consciousness is slowing down to a standstill, continuing its natural advance by its own momentum. This is difficult, because, when proceeding with the logic-master at the throttle, the train moves along definite tracks, though with frequent and unforeseen switchings, while the slowing down is really, in some measure, the abandonment of enforced highways and the transformation of the whole into some other though kindred locomotion. Mr. Galton has recorded such a personal essay by allowing "the mind to play freely for a very brief period, until a couple or so of ideas have passed through it, and then, while the traces or echoes of those ideas are still

lingering in the brain, to turn the attention upon them with a sudden and complete awakening." It cannot be supposed that by this ruse we shall secure a replica of the natural drift of dream-thought; but if the effort to keep the hands off the mental operation has been moderately successful, we are likely to find an intermediate form of product with some decided approach to the characteristics of the dream-current. Mr. Galton walked along Pall Mall, leisurely scrutinizing whatever caught his attention, awaiting a suggestion or two that might be thus aroused; or he set his thoughts going by contemplating a selected word or phrase, — all this as unrestrainedly as possible. It appeared that a large part of these freely launched thought-sequences floated along on a current of visual imagery. Another considerable portion revealed the histrionic or dramatic talent at work, — "cases in which I either act a part in imagination, or see in imagination a part acted, or, most commonly by far, where I am both spectator and all the actors at once in an imaginary mental theatre." At times the tableaux gave way momentarily to the verbal suggestiveness of the formulated thought; and now and then abstract notions attracted the mind, not infrequently inducing a puzzling association-blank, to be bridged only by a more concentrated effort. When traced to their source in experience, a con-

siderable share of the associations dated from images formed in youth, and brought to light half-forgotten incidents. What is interesting is that each one of these traits is eminently characteristic of the associations of dreams. Obviously, this momentary resurrection of evanescent images that still have one foot in the waking world is not dreaming; yet the same types of progress that furnish the *tempo* for the movement of dreams are easily recognizable herein.

Idler, less purposive, yet waking reveries, approaching more nearly to the remoteness of dreams from the genius of the work-a-day world, we have least favorable opportunity to set to words. Such musings partake of the evanescent, non-luminous attention, the indefinite fixation of sleeping dreams, but lack their frequent pictorial vividness and self-sufficiency. They no longer so readily qualify for reinstatement in waking memory, and have not yet acquired the privileges of the transferred allegiance. It is naturally a delicate task to find recordable instances of revery that is not too restrained by the genius of waking thought, or of dreaming that has sufficiently shaken off the deeper incapacity of the mind's inertia; yet it seems plausible to expect that the half-aroused mental movement, before it gets its waking pace, will exhibit much the same inclination to a dream-like handling of a theme set by an actual environ-

ment, as is encountered in the slowing down of our normal progress, when the wind fails and we begin to drift with the tide. The light effects of dawn and twilight have something in common; the landscape is comparably transformed in the gathering and in the lifting mist. When we awaken somewhat gradually from a deep slumber, or regain consciousness easily after a momentary oblivion, we may be able to fix, before they fade, the playful measures of the mind's truant occupations.

As apposite instances I can offer nothing more satisfactory than these two: In the first experience the narrator, in the languor following the awakening from a nap, indulged in a passively uncritical train of association. His eyes rested upon the outlines of the window-panes, which presented a series of oblongs with the long side horizontal; he appreciated that the panes were really higher than broad, and that the effect was due to the crossing of the bars of the one sash with those of the other; reflected that the effect was pleasing, that he had seen it in old houses and in new ones built on old models; then visualized a window containing these broad panes; then thought how easily, in ordering window-panes of such shape, a carpenter might make a mistake and set them with the long side vertical instead of horizontal; speculated whether such an error would require the job to be done over again; then visualized a fireplace showing the color and design and setting, in a house which he had built fourteen years before,

in which the faulty drawing of the architect had resulted in a badly proportioned opening, an irreparable mistake; then visualized the face of the culprit architect; and at this stage entered a wide-awake condition, wondering why this face should be present, — and was just able to resurrect by a reverse memory the aforesaid series of uncontrolled yet logical subconscious associations. Another contributor emerges from a "brown study," vaguely aware of a misty medley of flitting faces, is able to revitalize but one of them, which, much to his surprise, proves to be his own reflection as he sees it in his glass while shaving; and is able to trace the appearance (a probable but not demonstrable source for others of the faces as well) to the series of illustrations scattered among the advertisements in a popular magazine which he had been perusing, — one of them, on the open page before him, setting forth the excellence of a certain make of soap by picturing the foamy lather on the shaven cheek. Doubtless, we all meet with such unexpected sequences in listless reflection, of which we recall only the more striking and accountable. Towards the great majority of these we do not, and could not if we would, assume a successful introspective attitude; they are far too elusive to be caught in the resurrecting process that attempts to draw them from their submerged retreat.

From the quality of the intent reveries, which we considered in appraising the measure of dream-fancy in discursive thought, we may readily anticipate its more pronounced, more extravagant

expressions in playful musings. The consistency of the series, from the released tension of logical guidance to the freest wanderings of an irresponsible fancy, is indeed well maintained. We might next look to the momentary oblivion of an instant's loss of consciousness as a presumably favorable device promptly to set the dream-construction to work upon the material of the waking occupation. Concretely, we may enter upon a "cat-nap" with some charge upon the mind, some definite engagement; and then, if we dream, we contemplate the transformation of our concern through characteristic dream-imagery. Of this I have an apt illustration: —

A mother, at the bedside of her child convalescent from an infectious fever, had been singing the latter to sleep; and for a moment she, too, fell asleep. From time to time she had been reading, and for weeks her literature had been confined to paper-covered novels, magazines, and newspapers, which, to avoid infection, were promptly consigned to the flames. Her dream-reasoning took up the theme thus: "What a pity! I have just sung my favorite song; and now it must be burned up, and I can never sing it again," — a concordant bit of reasoning applied to curiously inappropriate premises, a type of incongruity to which dream-logic is notably indifferent.[1] A more intri-

[1] In "cat-naps" one may quite as often drift far afield from the moment's occupation. The revery into which we fall when we stare with vacant eyes at the unread page before us often finds

cate confusion of real moves upon a fictitious board appears in the dream of the medical student, whose duties required his presence at the hospital at an unattractively early hour of the morning. He responded to his landlady's summons to awake, realized his obligations, but realized more immediately the attractions of inertia and dreamland. In his dream he saw the hospital-ward with himself on a cot, and the usual card at the bedside, giving the name and the data of the "case." His dream-consciousness, thus reporting that his person had already been transferred to the hospital, plausibly argues that there is no need for arousing himself to go there, and offers the assurance that he may comfortably continue to sleep, — which he does until a succeeding moment of wakefulness dispels the pleasant dream-delusion.

A comparable incident, involving a similar playing in and out of the sleeping world, is that of a student who impressed upon her mind the neces-

us browsing in quite distant pastures. Much depends upon the condition in which revery overtakes us; whether we take a quick excursion with the seven-leagued boots of fancy to a castle in Spain, or whether we fall back with modest innovation upon some reverberating undercurrent of spent occupation. Instances of the former the reader will supply; for the latter a brief incident may be cited: A young man falls asleep with head upon hand, and wakes promptly with a vivid dream-picture, in which he appears in the act of throwing a stone over a windmill. Just before settling down to his reading he had actually been throwing a ball high in the air, and while throwing it had wondered whether he threw it as high as he had the previous summer at his home, when he threw a ball over a windmill, — the dream-picture thus undisturbedly reinstating in a life-like tableau the fading reflection of an occupied mind.

sity of awaking at half-past seven o'clock. She awoke at the noise of the factory-whistles that are sounded at seven o'clock, and settled back to a short sleep. The dream begins with an impression that she asks her room-mate the time, and receives the answer, "Twenty minutes before eight;" then, that she arises and dresses and goes down to breakfast, where all proceeds regularly, except that the dishes are displayed upon a buffet, from which each selects whatever is wanted. Breakfast over, she consults her watch, finds it to be only seven o'clock, and takes her room-mate to task for having misinformed her as to the hour. The latter denies having given any information on the subject; and in seeking to harmonize these conflicting testimonies, the sleeper awakes to find that in the waking world it is just half-past seven o'clock. It would thus appear that the subconscious guidance, to which we intrust our responsibilities when we turn over for the coveted half-hour more, took this roundabout method of awakening the sleeper, ever holding in mind the charge committed to its care, while indulging in a simple variation upon the central theme.

The transitional status of dreams is wholly consistent with their frequent occurrence during the lightening of slumber, after the brain has been for a considerable period plunged in a deeper sleep, and the whole organism has become adapted to the accompanying abeyance of nervous function. This condition influences the manner of origin of the dream-material, concerning which we

have an inquiring interest. We discover promptly that the stuff that dreams are made of is of two textures, the one of a direct perceptive quality, and thereby giving rise to a *presentative* dream; and the other woven of such of the dominant reflective ideas and store of memory-images as are available to an unpremeditated summons, — such elements, in view of their more elaborated standing, being termed *representative*. Naturally also does the typical dream embody an intricate mingling of the two. Yet in certain of our dream-ventures we float so constantly upon the sensory stream that its course directs the manner of our excursion; while others in turn are conducted under such purely intellectual guidance as to reflect no discernible motive in actual feeling. Whether responsive to a sensory incentive or not, the dream-material receives a characteristic transfiguration, in which the dreamer remains ignorant or most vaguely aware of the source of his inspiration, viewing his experiences through the brilliant transforming medium of the dream-atmosphere.

It may be readily demonstrated that our senses are sufficiently active in sleep to respond in some degree to their natural stimuli. In this respect they fall into two classes: the one the more objective, the world-informing senses, of which sight and hearing are the notable exemplars; and the

other the body-informing senses, that bring to our consciousness complex and indefinable sensations of the positions of limbs and muscles, of the functioning of the internal economy in ease or discomfort. The former, being directive in the shaping of our mental imagery, are likely to be summoned in the staged processional movements of intellectual dreams, while the latter undergo curious transmutations, assuming pronounced disguises in which it is difficult to recognize their organic starting-points. Moreover, such senses as taste and smell, that in this aspect occupy an intermediate position, with difficulty secure representation in either realm, but occasionally appear in both. What is notable of the sleeping condition is that the outwardly directed senses are largely cut off from their stimuli, while the inner organic senses not only have functions to serve during sleep, but naturally come to the front when their powerful rivals are in abeyance. For these reasons, the more frequent and more typical presentative dreams are founded upon the tactile, motor, and organic group of sense-feelings, and through this avenue reach the freer elaboration of dream-fancy. Yet, though the eye and ear are moderately safe from stimulation in secluded sleep, and any too violent stimulus thereof is apt to induce wakefulness, it at times occurs that some visual stimulus — and far more characteristically

an auditory one — reaches the sleeper's consciousness sufficiently to affect his dreams and without otherwise disturbing his slumbers. A few instances will be sufficient to set forth what these sense-determined dreams mainly have to tell for our present interest, namely, that this type of dreaming elaborates after its own manner the commonplace material of the external, and most characteristically of the inner, bodily excitements; that it interprets these typically subconscious messages, not with the corrective orientation of the logically trained waking mind, but with the fantastic *motif* of spontaneous revery.

Apart from the organic dreams, of which the protean varieties of nightmare following upon indigestion are an adequate reminder, some experimental ventures have indicated that by tickling a sleeper's nose, one may induce a dream of a mask, or of a plaster being applied and torn off; move his right hand, and he dreams of a fight; or draw up his leg, and he dreams of walking upstairs; uncover his knees, and he dreams of a diligence-ride, in which the traveler's knees are apt to feel cold; snap scissors near his ears, and he dreams of the clank of bells; place eau-de-cologne under his nostrils, and he dreams of the perfume of the Orient; approach a hot-water bottle to his feet, and he dreams of walking over hot lava, or of being led by Satan over the burning marl of hell. The application of heat to the feet of a patient with paralyzed limbs induced a dream of being transformed into a bear, who was taught to dance by

being placed on hot iron plates. The slipping of the cover from a hot-water bag applied to the feet brought on a more elaborate sequence. The narrator before going to sleep had read of the capture of tourists by Italian brigands; he dreamed of being attacked by two Mexicans in the Rocky Mountains, who, after a struggle, captured him, and hurried him to their camp situated in a deep gorge. Here they threatened tortures unless he revealed how copper could be converted into gold, and upon his plea of ignorance of such a secret, removed his boots and stockings and exposed his naked feet to the fire.

Accidental stimulation of the senses furnishes similar plots for dream-scenes. Sight furnishes the least of these, yet appears in the dream of fire induced by an actual blaze in the neighborhood, or by the passage of some one through the bedchamber with a lighted candle. The rustling flap and rapid shutting in and out of the light, caused by a blowing window-shade, induced a dream of lightning and thunder; while an actual thunderstorm was responded to by a vision in which the dreamer's head was being placed upon an anvil and crushed to the accompaniment of a crashing noise and the flight of sparks. One may readily illustrate how actual sounds and words, heard, it may be, in a half-awake condition, reappear in the dream-sequences; simpler instances are common enough, such as the blast of a postilion's horn inducing the dream of a church chant with organ obligato, or the rumble of a passing carriage starting off dreams of travel. A more elaborate dream in which the material is supplied mainly through auditory channels, but the

dream-fancy operates the loom, is the following, narrated by a college girl, who had during the afternoon watched with interest the military manœuvres of the university battalion. During the night — about one o'clock — a telephone message arrived at the sorority-house, announcing a death in the family of one of the members, A. The household was at once aroused and excited. There were more telephone calls, much walking in the halls, a message to the railroad station to hold the train if need be — and A. went off. Now the narrator was only partially aroused by all this commotion, had no distinct knowledge of A.'s departure, but had the memory of a vivid dream: "I dreamed that I was at the 'North Western' station in a large city, and that companies of soldiers hurried on to the train. I was very much excited, and it seemed to me that some one whom I knew well was about to leave. The engine whistled and started to move when some one called, 'Hold the train for two minutes; I must get home.'"

Dr. Hammond cites[1] two pertinent odor-dreams: the one a dream of a chemical laboratory, excited by the escape of gas in the room; the other of a laundry and of a woman scorching a blanket with too hot an iron, excited by the odor of burning cloth.

The more elaborate presentative dreams are likely to be associated with longer enduring and

[1] *Sleep and its Derangements* (1873), p. 133. There is also reprinted (p. 131) a most elaborate and distressing, almost morbid, delirious dream carried on by one who was compelled to pass the night in the close, odoriferous house of a cheesemonger.

summating excitements, of which the following are sufficiently typical. They involve in each case, in addition, a various range of representative elements that have their source in the endowment and experiences of the individual. Owing to the crowding at a village hotel, a traveler shared his bed with a strange bedfellow. He was somewhat concerned for the safety of his valuables, and dreamed of robbers who were choking him, when he awoke gasping; for the pillow-sham, held by a rod above his head, had fallen over his face. A student dreamed that he was called up in Professor F.'s class in Dramatic Reading, but as he responded, found greater and greater effort in seeing the text, being forced at last to tell the professor that he could not read. He awoke to find a burning pain in his eyes, the beginning of a temporary trouble.

The following dream is notable by reason of the minute accountability of each of the several factors; and the one succeeding it is similarly suggestive. In the one dream, the left ear had somehow become a source of annoyance and pain; so the patient found relief by the drastic method of cutting off the offending member with a razor. Here was a serious plight! As a teacher, this disfigurement would detract from his proper appearance in the schoolroom. He accordingly telephoned to Dr. A., who replied that he could not come in person, but would send a physician who happened to be visiting him. The latter presently appeared, a tall, unknown German, an expert in such operations, who replaced the ear; and as the patient felt the blood coursing through the resurrected organ, he awoke to find his actual ear

doubled up under his head. The incidents of the dream-action are unusually well accounted for. To begin with, the scene was set, not at the dreamer's actual home, but in Kansas, — and this because of the arrival during the day of a letter from his brother living in Kansas. The narrator's mind was ruminating upon operations, because he had that afternoon attended an operation performed upon his small son. Dr. A. was sent for as a personal friend and former physician, and the fact that he lived in far-off Montana excited no sense of inconsistency that could not be met by a summons by telephone; likewise was it the fact, that this doctor had recently taken a partner, in appearance unknown to the narrator. Also is account taken of the dreamer's actual profession; while the razor, to one who shaves, may naturally be summoned to do duty as a surgical instrument.

The second dream is recounted by a young lady who had placed aloes upon her thumb to break the childhood habit of thumb-sucking in sleep. "During the night, however, she dreamed that she was crossing the ocean in a steamer made of wormwood, and that the vessel was furnished throughout with the same material. The plates, the dishes, tumblers, chairs, tables, etc., were all of wormwood, and the emanations so pervaded all parts of the ship that it was impossible to breathe without tasting the bitterness. Everything that she ate or drank was likewise, from being in contact with wormwood, so impregnated with the flavor that the taste was overpowering. When she arrived at Havre she asked for a glass of water to wash the taste from her mouth,

but they brought her an infusion of wormwood, which she gulped down because she was thirsty, though the sight of it excited nausea. She went to Paris and consulted a famous physician, M. Sauve Moi, begging him to do something which would extract the wormwood from her body. He told her that there was but one remedy, and that was oxgall. This he gave her by the pound, and in a few weeks the wormwood was all gone, but the oxgall had taken its place, and was fully as bitter and disagreeable. To get rid of the oxgall, she was advised to take counsel of the Pope. She accordingly went to Rome and obtained an audience of the Holy Father. He told her that she must make a pilgrimage to the plain where the pillar of salt stood, into which Lot's wife was transformed, and must eat a piece of the salt as big as her thumb. During the journey in search of the pillar of salt she endured a great many sufferings, but finally triumphed over all obstacles. . . . After a good deal of deliberation she reasoned that, as she had a very bad habit of sucking her thumb, it would be very philosophical to break off this part from the statue, and thus not only get cured of the bitterness in her mouth, but also of her failing. She did so, put the piece of salt into her mouth, and awoke to find that she was sucking her own thumb." — Hammond.

In all these suggestive assimilations, the interpretation embroiders the tale occasionally with but a simple pattern, a quite close variant of the real sensation, yet as frequently separated therefrom by distant spans of fantastic associations.

The possibilities of dream-construction seem thus endless; and we might have hours of such mental rhapsody, and, in conformity therewith, a measurably different human psychology to prepare, were it not that nature does not cultivate, at least in its normal arrangements, such enduring reveries, such half-lulled musings of the mind; and perhaps equally, that the mind does not easily retain for minute rehearsal in waking periods an ample record of its capricious journeys.

Yet for the larger range of dream-content must we be willing to accept an account of its affiliations with consciously assimilated experiences, in far vaguer, more uncertain terms; and this partly because dreams speak in parables that are weak in meaning to the waking understanding, partly because of the complexity and intricate variety of the mind's affairs, which bring it about that the proportion of those definitely traceable to the potential resources of the mind bears about the same relation as does the drawing power of a single depositor to the treasury of the bank in which he holds an account. It is mainly to have fresh in mind the manner of negotiation in the business of dreams, of these drafts upon the common mental bank, that a few concrete accounts are offered for inspection, the chief quality of which is their freedom from any exceptional features. They may be regarded as circulating at par

value, and might equally well be replaced, as the reader is encouraged to replace them, by others from his personal account.

For related reasons, I give in part narratives from my own experience, in which an attention to the correctness of perspective in the rendering and a prompt record of the incidents lend additional realism. I may preface that I am not a proficient dreamer, frequently find upon awakening only the *disjecta membra* of a forgotten dream, and am unpleasantly and familiarly acquainted with nightmares of mild or distressing type. The dream was this: The hour was late at night; I was sitting at my desk in my study, writing by the light of my reading-lamp. The light suddenly illuminated a hallway and stair-landing, which in retrospect I recognized to be the hall of the house in which I had spent the previous evening. On the landing appeared a maid in black dress and starched white apron, who — so I reasoned in my dream — had found no other place to sleep than on the stair-landing, and who, I feared, would, on seeing me, become frightened, give the alarm, and arouse the household. My attempt to divert this *dénouement* at once merged into an effort to arouse myself, which was practically a mild nightmare, from which I awoke with distressing sensations and the words, "Wake me," spoken with great effort, still audible on my lips. That is all of the dream; nothing much worth telling, nothing that I should have remembered to tell, had I not made a special effort to do so; just a sequence of pictures, — and that, I take it, is what most of one's average dreams

are. I was also able to recall, as a sort of prologue to this dream, something that remained vague in my memory, yet seemed in a measure connected with the other. I found myself running out of the garden of a friend, — this again at dead of night, — reflecting as I ran that it was a foolish thing to do, as I incurred the risk of being shot at in running. That isolated picture was all that I could recall of this dream episode. Now as to the sources of the dream: All the elements of both dream-pictures are to be found in the happenings of the preceding twenty-four hours, — a common dream trait. I had dined the evening before with a company of men. The scene of the stair-landing and the appearance of the maid are transferred directly from the home of my host. Most of the men were members of the Faculty of the University; and I had spent a part of the day in writing a document concerning the business of the Faculty. I went to sleep with the consciousness that the hour was late; and the nightmare presents the familiar relation to the indulgence in a heartier dinner than usual. The sub-dream or fragment was set in the garden of another member of the company, who was concerned in the document which I dreamed I was writing.

The episodes have something to do with one another; yet the commingling is unexpected, and much consideration is had of the dramatic element. The motive of the dream lies in part close to the dreamer's real occupations and interests; but the dream-pictures are as clear for the incidental impressions as for any other; and, admitting some

measure of irrelevancy and the mock reasoning of the dream-consciousness, the whole becomes about as rational and explicable a part of the currents of his thought as would be most of his untrammeled or casually directed musings.[1]

There are further factors in the dream-movement, some fundamental and others secondary to our central purpose. They merit incidental recognition, particularly as they may be noticed in connection with a very dominant trait of dreams, namely, their continuation or resuscitation of prominent waking activities, — a factor conspicuous in the dream just cited. Let us begin with the motor type. To dream of doing that which you have been doing, and perhaps persistently doing, seems natural enough; this is indeed a process easy of expression in nervous functions. In its lowest form, it may be little more than the persistence of irritation of the excited centres. For muscular activity the local after-feelings in the strenuously exercised muscles form a sufficient starting-point that the dream-consciousness readily builds upon, while the fatigue after-effects of long stimulated sense-organs offer an equally direct dream-*motif*.

[1] I must also ask the reader at this stage to read again, with his attention directed to the relations just presented in the reference of my own dream to its origins in experience, the dreams recorded for a related pertinence on the preceding pages, and also pages 70–73 and 90–92.

The following account of the persistence of motor sensations during the first night on land after a fortnight upon a rough sea tells the tale adequately: "As long as I lay on the bed with my eyes open, everything was normal; but as soon as I closed my eyes, I could feel the bed rock higher and higher, and then, just as my mind was becoming a blank, the foot of the bed would seem to rise up, and the whole bed would whirl around; this, of course, would awaken me. Time and time again this happened, until finally I went to sleep. The dream that followed was that I was in a basket on the end of a spring or some flexible material, and that I was being swung high in the air. Then, as I was on the downward journey, a great black ball or cloud seemed to come and meet the basket and to strike it a terrible blow. At this point I awoke and found myself on the floor."

This incident contains all four of the factors that may variously enter into these combined presentative and representative or reflective dreams. First, the sensations or mental occupations are present as an undercurrent, and may be detected as engaging the waking consciousness by merely shutting out the rival sense-stimuli or rival trains of thought (by closing the eyes and directing the attention inward, the "sea" movement becomes apparent); second, the sensations are experienced in the direct sensory terms of dream-consciousness (the dreamer feels the motion, lives the experi-

ence); third, there is an actual reaction (the sleeper tumbles out of bed); and fourth, the sensation gets itself woven into a plot or sequence, in this case a slight variation only, as the sensory undercurrent is so persistent. The first point, when generalized, illustrates how the waking consciousness on going to sleep may, by suitable attention, become vaguely or definitely aware of the undercurrent of thought or sensation that presently is to reappear in dreaming. Indeed, the mechanism thereof is similar to that by which a charge of some mental errand is made upon the sleeping consciousness. The second summarizes the group of cases, in which, after some strenuous or unusual occupation, such as playing ball, or rolling stones, or cutting hay, or making paper flowers (these are actual instances), the dreamer continues these activities in dreams, possibly merely as a witness, and possibly making them the starting-points of other dream-episodes, but in which the dreamer remains passively asleep. In the third group, the motor activities are carried to execution, and we have somnambulism, and as a specially interesting variety, somniloquy; and we might further generalize the sprawling, singing, riding, fishing, jumping, shouting, getting up and doing things that ensues as the issue of such dreams by grouping them together as "action" dreams. The persistence of occupation may thus stimulate the mus-

cles and the mind to dream-performance; in consequence of an activity prominent, in fact, still vibrant, in the recent occupation (though, it may be, for other cause), the sleeper becomes a dream-actor and carries out the part in a trance-like state. Or if he be less excitable, as most of us are, he merely dreams of himself in the part of his dream-allotment, exhibiting, in a slight measure, to a chance witness, some of the motor accompaniments of the supposed deed. Transferred to the intellectual field, we have all varieties of problems solved, intellectual doubts removed, and again with or without motor accompaniment. The whereabouts of a lost article may be made clear in a dream-picture, or the dreamer may get up and find it; the lost quotation or the missing formula may appear to the dream-consciousness, or it may be spoken or written. The fourth factor lays emphasis upon the fact that all these procedures are likely to be decidedly transfigured in the dream-solution, and that indeed this dream-composition, especially in the intellectual associative field, is the life and soul of dreaming, the other factors perchance diminishing to a vanishing-point, and the unaccountable, creative, imaginative energy becoming responsible for all that is notable in the elaborated product.

It will be sufficient, in order to give that desirable sense of concrete realism to the exposition, to

select a small group of dreams, all of them of simple, ordinary type, and leave it to the reader to make the interpretations in conformity with the analyses just enforced. First I present a group of three dreams, all embodying motor elements derived from recent occupation, and either persisting by their vigor through the sleeping state, or charged as a care upon the sleeping as well as upon the waking mind. A. had been practicing for the broad jump in preparation for an approaching contest, in which he was absorbingly interested. His dream, that came promptly upon falling asleep, disclosed a detailed picture of the contest, with his competitors limbering up and jumping as their numbers were called, and finally his response to the call of his own number. Instantly he was off in the air with his knees doubled under his chin, landed fairly, and awoke in a perspiration, with tense muscles; and presently realized that it was only a dream-jump. Equally pertinent is the case of B., who, without awakening, was observed by his room-mate to go through violent movements with his legs, under the bedclothes; and when asked to account for this the next morning, he was able to recall a dream in which he was riding a bicycle, and eager to overtake another rider constantly in his lead. C. had been working all day long in harvesting hay. The hay was hoisted by large forks and tackle, and when shifted to where it was wanted, was dropped into place; it required caution on the part of the workers to keep clear of the huge masses of hay. "A great forkful of hay was suspended above me on the point of being dropped, when I suddenly sank to the waist in an unno-

ticed crevice. In vain I struggled to extricate myself to avoid being covered up. Down came the mass, landing about two feet in front of me. But I was not to escape so easily, for my comrade on the other side was straining every nerve to push the mass over to make way for the next one. He had not seen me, and was pushing the hay right upon me. In sheer desperation I pushed against the mass and shouted so lustily that I awoke to find myself sitting bolt upright and pushing against the adjacent wall with both hands." This dream, it may be added, like the former, came promptly upon going to sleep.

When the dream-acting is more than incidental, more than the mere final issue of a dream itself conducted in passive terms, it becomes full-fledged somnambulism, which, like the active dreams just cited, may contain a single scene or a dramatic sequence. Quite typical of the intrusion of the dominant worry or thought is the case of D., a Freshman, considerably alarmed by the danger of hazing, who dreams that the Sophomores have captured him and locked him in a room to await his fate. Seeking a way of escape, he observes a door, the upper portion of which is of glass, and strikes it with his fist. This awakes not only himself but his room-mate; and investigation reveals a broken window-pane as the issue of the dream. E., a father, excited by an account of the kidnaping of a child, arises at night, goes to the cot of his little boy, places him on the floor, tumbles the bed-clothes over him, expresses satisfaction at having saved the boy from the pursuing kidnapers, and is with difficulty awakened and made to realize that he is responsible for the disordered room.

F. awoke suddenly on a cold winter night to find herself in an upstairs hall, with a heavy cloak over her shoulders. Under the stimulus of the cold, she had arisen in her sleep, and walked downstairs through other rooms into the hall where hung her cloak; this she had put on, and was returning to her room, when she stumbled against a stepladder left there by workmen, and by this encounter was made to realize her condition. The somnambulistic consciousness took account of the accustomed obstacles, as one ordinarily finds his way in the dark in a familiar room, but was unable to adjust itself to the unusual intrusion. As a typical instance of an "action" dream pursuant to an emphatic charge upon the memory, I have the case of G., a young woman left in charge of the household during her mother's absence. Owing to the preparation of a late supper and the interruption of visitors, she was engaged as late as ten o'clock in washing dishes and in laying the table for breakfast. In the middle of the night, she was found by her father rewashing these same dishes in her sleep; and, in reply to his questioning, she urged that she wished her mother to find all in order upon her return. The next morning she retained no memory of her dream-activity.

Dreams that arouse the speech or writing mechanisms to action have psychologically the same status as those just considered, but are naturally the issue of more reflective, rationalized interests; yet they may be, as in the first of the next two instances, a merely vocal, or as in the second, a spoken expression of a contemplated action. H., for some reason that she could not recall, began

to sing in her sleep, clearly and expressively, and thus aroused her room-mate. The latter was sufficiently interested to start a familiar song, and found that the sleeping vocalist continued the suggested aria. I., on one occasion, awoke her room-mate by requesting the latter to get up and light the lamp. As I. was known to be subject to talking in her sleep, no attention was paid to the request. The somniloquist seemed to be irritated by this, and saying, "Well, if you will not light it, I will do it myself," actually arose, struck a match, lighted the lamp, properly replaced the chimney, and returned to sleep, quite unconscious of the whole incident.

The remaining illustrations of dream-progression may be conveniently grouped about such as consider a problem, or undertake some concern of the mind, all in the characteristic dream-manner; those that embody a similar fear or apprehension or worry, in which, however, no constructive operation, no solution is involved; and finally, those that diverge still further from any purpose, and present merely the mind's interests, or its playful, fanciful occupations, which last as first represent the typical quality of a dream-experience. The instance of G. might equally be cited in the present connection as the active persistence of a duty already performed. The accounts of solution in dreams of more intellectual problems, as a rule, conform to a few types, yet bring with them so little comprehension of the rationale of their

solution, that it is quite as profitable to cite them in outline as in detail. They afford disappointing and fragmentary glimpses of the dream-method of attack; they present, at times dramatically, and at times quite prosaically, the perplexing knot untied, but regrettably little of the actual process of unraveling. Among students, mathematical, and especially visually conceived geometrical or algebraic problems are solved in dreams, — sometimes with the setting of the recitation-room, the summons of the instructor, the actual chalk and blackboard, sometimes in mysterious revelation, and sometimes in verbal formulæ. The baffling portions of a model or mechanical device are seen in operation, or the whereabouts of a lost article appears in its appropriate setting; anticipated examinations are rehearsed, and imaginary but pertinent questions set and answered; missing quotations are referred to their proper source; forgotten lines to complete a stanza are recalled; arguments to defend an actual position are passed in review. In rarer cases such rational procedures find their way to utterance, the dreamer mumbling or speaking the words that express the onward movement of his thought; and in the rarest of cases the sleeper arises and records them. So various are these operations that it is safe to say that they include the entire range of psychological processes that enter into constructive

thought; and likewise do they retain analogy to the intrinsic relations and modes of procedure that characterize them when performed with normal waking attention.[1]

From this point onward, dreams expand into such variable, such apparently capricious and fanciful creations, that one can do little more than present an arbitrary selection, in which are embodied pertinent illustrations of dream-construction.

J., a conscientious student, to whom his studies are burdensome, was intensely eager to attend a performance of the "Merchant of Venice." Though he prepared his tasks in advance, he was much troubled to find that he made a poor showing in his classwork upon the following day. Immediately upon going to sleep at night, he was confronted in his dreams by his instructors, who each demanded that J. prepare his particular study, regardless of the others. An argument ensued, in which J. insisted that he could do no more, while the instructors enforced their demands; finally Mr. X., one of the largest men in the University Faculty, in the precise manner of Shylock, drew out a huge knife and began

[1] As this type of dream-construction approaches most nearly to that of waking directive thought, I have cited the most comprehensive instances in connection with the mechanism of normal thinking. I refer again to the dreams cited on page 90, and refer also to a dream of the same type (Hammond: *Sleep and its Derangements*, p. 116), in which the existence and location of an important legal document are revealed in a dream by the ghost of the dreamer's father.

to whet it upon his boot. This dramatic threat abruptly terminated the dream.

This is K.'s dream: He was in the room of a house in which a corpse was exposed, the presence whereof induced an uneasy feeling. In trying to escape, he was met by an elderly woman, who closed the door and forced him to sit on a chair in the dreaded apartment. After a long period the lady reappeared with a small box in her hand, saying, "Please give me something to help bury my poor husband." At this moment there was a rustling sound, and the dead man was observed to sit up in his coffin, while K. and the lady began a conversation with him. This is K.'s explanation: He had been reading in the paper of the burying alive of a man supposed to be dead; and with this notion incidentally present in his thoughts, it chanced that he was asked that evening by a lady to contribute to a missionary fund. The merging of these two incidents sufficiently supplies the dream-elements.

L.'s dream is typical in its absence of consecutive or purposive movement, reflecting only the shifting pictures of a slumbering yet excitable brain. The scene opened in the school-yard of his native village. Pole-vaulting was going on, and naturally he was the champion, jumping a distance which, although it did not appear to be over fifteen feet, he somehow knew to be forty feet. Other boys were standing about, but silent and vague as lay figures, while he occupied the centre of the stage. This occupation seemed to merge with a metaphysical query concerning automatism, the result of which was to establish the impression that if L. could make facial grimaces

while jumping, he would prove that he was not an automaton. At about this juncture the former scene faded away, and a new one, not definitely located, appeared, in which C., a boy friend, was present and the two were playing ball. The ball turned into peanuts, which were rolled across the field, the field becoming smaller and the peanuts larger. On leaving this field, L. came to a corner at which a building loomed up dark and sombre; and he found himself eating candy with another boy friend. The candy was definitely seen as put up in little packages within a larger bag; and he was made aware, though he could not tell how, that the purpose of the wrapping was to keep the candy clean or prevent it from being returned to the maker. Again a vague shifting of the scene; and L. was left alone, feeling forlorn and anxious. But presently all was transferred to still another scene, in which L. and his mother were in the village store to purchase some fleece-lined underwear. The price demanded was one dollar, and L. was about to interpose objections to the charge, but was restrained by his economic conscience urging that any reduction would lower the standard of the goods. The mother and the friend, who appeared vaguely in this interview, then vanished, and L. was now on the other side of the store; but the merchandise was no longer in its proper place; and he and his companions were eating cheese and crackers, and at the same time discussing socialism. This doctrine the carpenter of the town, in reality a grossly ignorant man, defended. L. urged more compromising measures, dwelt upon the value of the English aristocracy, and then became aware of the presence of Mr. M., a stu-

dent of social problems; and with this the dream or series of dreams dissolved. It need only be added that the narrator of this dream-sequence is a close student of philosophy, is decidedly interested in social problems, and had recently been reading Morris and Ruskin; while the recurrent eating incidents were referred to an actual attack of dyspepsia, and the harking back to the familiar home scenes presents a natural and frequent dream-factor.

We have thus passed in review the normal character of dream-procedure, emphasizing its affiliations, in source of supply and in the manner of its elaboration, to the waking use of allied material. Yet the natural history of dreaming requires equally that its distinctive traits, the differentia of its species as well as its community with the genus, shall be discerningly noted. This aspect of dream-life has not been overlooked. It may, however, be profitable to direct more specific attention to such of the contrasts as have closest bearing upon the subconscious operations of the mind. It has been already noted that the sense-factors of dreams are characteristically drawn from the type of inner organic sensation, which has a feeble and vague representation in consciousness. So far, then, as a direct sensory participation influences the dream-movement, it is typically derived from those sense-forms that have, in the main, a subconscious status. This same distinction pre-

sents another and a more general contrast. The objective type of perception that brings us into relation with the world of things furthers a distinctly intellectual attitude; much of our seeing and hearing is a direct stimulus to the rational powers, and as a consequence leaves a residue of clear, systematic, well-defined, strongly inter-related memory images,—the preferred data of logically constructed thought. The contrasted group of sense-perceptions that tells of feeling rather than of knowing, of our personal vicissitudes rather than of the world without, is likely to assume a dominant emotional tone. Their excitation directly affects the delicate fluctuation of the sense of well-being, that obscurely but effectively determines mood, temperament, and, in the intellectual field, the spirit and dominant tone of our assimilation. Consistent with this status, we find that the emotional value forms a powerfully determining factor in the trend, and, it may be, in the definite associative threads of dreams. The entire contrast of gay and sad, excited and depressed, pleasant and painful, effortless and irksome, sets the background of the dream-stage, determines whether the curtain rises upon comedy or tragedy, shapes the dreamer's fate to good fortune or despair. So much is this the case that to the emotional characteristics of dreams has been accorded some modest value as corroborative, in a minor

phase, of nervous disturbances and mental irritations, both within the range of normal health and in pronounced mental disease. It is because, as has been already set forth in another connection, so much of our mental life proceeds in the subdued tones of hope and longing and suppressed desire, of brooding and worry and disaffection, that the unrestrained issue even of our intellectual contemplations is apt to take its tone from the emotional rather than from the logical phases of our mental interests. The same analogy that allies the musing, castle-building, story-making tendency of waking reflection to the normal procedure of dream-revery also imparts to the latter its characteristic emotional dominance. The *Lust zum Fabulieren* that is typically an emotionally suffused indulgence enters as notably into the creations of dream-fancy as into the waking productions of sensitive souls. The content and tone, the matter and manner of dreaming, thus are apt to take their clue from the subconscious, more inward, less explicit phases of our nature. For like reason does the temperamental variation impress itself so strongly upon dream-habits. Sensitive or callous, poetic or prosaic, matter-of-fact or imaginative, realist or idealist, devotees of fact or of fancy, we retain something of our actual character when we sojourn in dreamland, — a relation variously recognized in many a quota-

ble dictum, among them the suggestion of Charles Lamb that "the degree of the soul's contrivance in sleep might furnish no whimsical criterion of the *quantum* of poetic faculty resident in the same soul waking." The suppressed, unacknowledged aspects of our composite temperament find expression in dreaming, in summoning to the stage the subconscious performers, when the conscious players have been dismissed.

Upon one further phase of the subconscious yet reflective procedure in dreams will it be profitable to dwell. In one aspect, dreaming is more richly imaginative, more fantastically constructive, than the waking expression of our thought. This superiority is alike complex and misleading. We are accustomed to judge the temper and coherence of our waking thought largely by its success in reaching a verbal form; but in dreams we seem to stand face to face with experience, and are not removed from the most direct appraisal of its constructive value by the necessity of finding, even in part, some toilsome medium for its expression. Yet far more largely must we refer the characteristic difference to the more abundant access to just that form of playful excursion which the utilitarian bent of common thought has eliminated, in most of us, from such of the mind's operations as we consciously direct. In other words, in the stress and strain of training for useful accomplish-

ment, we have been required more or less to suppress, to refuse the opportunity of survival to a large range of possible mental accomplishments, which a different cultural environment, a wholly diverse civilization, might have more generously cultivated. A complex practical life effectively discourages dreaming; but in the enlarged sense all waking life, all active procedure, is practical and complex, so that some decided measure of contrast must ever obtain between the waking and the dreaming assimilation. The contrast centres, as we have seen, about the readiness to follow any trail that seems inviting, leaving us, however, with the inquiry as to why paths, so meaningless to the alert understanding, should really be there to be followed. Our reply must be that the one type of combination as much demands explanation as the other; that dreaming is just as natural as coherent thinking. We have indeed laboriously achieved our rationality, though with large natural inclinations thereto, but in so doing have by no means lost, though we have in part suppressed or sacrificed, the unrestrained development of the same mental powers that equally direct our hopes and longings, that lead as legitimately to revery and to dreams. What we fail to realize is that all experience is meaningless until we learn to read its message; that only in contrast with the slowly acquired standards of

profitable thinking is the dream-procedure pronounced incoherent. Dreaming is not failure of purpose, for the sufficient reason that purpose enters so slightly into its concern.

There would accordingly appear upon the dream-stage these two contrasted tendencies of our personality; and each might serve now as audience and again as critic to the other. Indeed, this interesting detail of dream-procedure has by no means been overlooked. In this subtly dual part the rôle has been compared to that of the stage-fool, who, in seemingly absurd pleasantry, often reveals discerning truths. One must not interpret this partitioning of the dream-activity too literally. What seemingly occurs is that the dreamer is both actor and spectator, both speaker and audience. It is as though one phase of our personality prepared a surprise for the other, accomplishing this feat by running ahead, and finding the solution, and bringing it back to be viewed by the more sluggish partner with all the interesting and admiring emotion of a surprise. Mr. Greenwood has suggestively portrayed this aspect of the dream-play by comparing its procedure to what would occur in conscious composition, "if Sheridan wondered while he was writing his 'School for Scandal' why on earth a screen was to be placed on the stage in Act III, and found out the purpose with a shock of surprise when he caused the screen to fall."

This paradoxical sleight-of-mind is clearly related to the ignorance on the part of the dream-consciousness of the source of its own data, which, in turn, results from its out-of-relationship with those corrective and regulative perceptions and reflections, which the waking, logic-steeped intelligence has been trained automatically to apply, so long as sanity prevails. We must accordingly realize that, when we enter dream-land, we should be prepared to renounce the entire equipment of correlating, unifying, rationalizing, sequence-predicting, relation-discerning habits with which we conduct the business of our waking concerns; we must recall that such proficiency as we command in applying these conceptions is itself not an immediately given, immanent trait, but has been slowly and painfully acquired by the racial and individual growth, through interpreted experience and constantly corrective observation. Such highly developed consummations of our mentality we can expect to carry only in small measure upon our dream-journeys; and it behooves us to realize how widely different, how unexpectedly capricious, how wantonly chaotic may be our adventures, when once the strand that holds the beads of our experience in consistent sequence is removed. Such orientation to natural laws, such practical achievement of a *modus vivendi* with the world in which we have to seek a living, extends not

merely to the external relations of space and time and causal sequence, but it extends equally to the mental world, to the unity of personality, the underlying sense that makes experiences our own, the equally binding antecedents and consequents of the mental procedure. In dreaming we renounce the one as well as the other; we shift or divide our personality as readily as we override the limitations of time and space, and tolerate anachronisms of age or station, of historic setting or cultural products. The dreamer "is not disturbed because a man in Boston converses with his wife in Calcutta; or a corpse drives itself to the grave, instead of being driven there; or a mosquito assumes the proportions of an elephant; or a child of five reasons with the wisdom of Solomon." It is accordingly consistent with the loss of relationship to the world of reality that all the complex logical acquisitions should in a measure disappear at a common stroke. In much the same sense in which thinking has been described as repressed action may it also be said that logical thinking is suppressed dreaming.[1]

[1] Much of this fantastic variation is of a rather simple nature, in which exaggeration is a marked and constant character. A gleam of moonlight becomes an effulgent illumination; a distant strain of music, the triumphant flourish and clash of a great army; the tingling of a numb arm, the devastating assault of myriads of ants. The exaggeration naturally does not remain a crude amplification of proportion, but expands into extravagance of concept,

Dreaming may thus be viewed as a reversion to a more primitive type of thought, the less developed procedure being due negatively to the loss of voluntary regulation, and positively to the imaginative musings and self-contained reveries to which the natural movement of the mind dominantly trends. The absence of the sense of control not only brings it about that we accept passively what fancy chooses to bring, but that, when brought, it comes to us lacking that personal stamp of our own efforts that makes us take credit for our waking constructions. The same simplification relieves us of the duty of maintaining a consistent character; and so we

and all the vagary of hyperbole and anomaly, of the grotesque and exotic, the baroque and the bizarre. The perusal of a considerable collection of ordinary dreams leaves with me the impression that the average measure of genuine creation or original combinations in dreams is readily overestimated. It is, in part, because only in dreams does this phase of our talents receive notice, and again because of the brilliant vividness of the dream-picture, that one is apt to pay a rather exaggerated tribute to the superiority of dream-combination. I take this occasion to comment again upon the unreality of dreams thus resulting, as judged by the standard of our mundane experience, in contrast with the intense reality thereof to the dreamer in the dream. Both these traits are the consequence of the abandonment of the logical standards by which in waking we distinguish between the subjective and the objective. This release from logical bondage will affect similarly, though not equally, minds of varied measure of receptivity, of varied station in culture, so that inventions, seemingly as richly creative as those of fairy tales, may pass before the dreaming vision of a quite commonplace mind.

witness not alone the transformation of one object into a wholly unrelated one, but the attachment of our individual characteristics to another personality, and the acquisition by our personality of traits foreign to our nature; we indulge as freely in a paradoxical psychology as in an impossible physics. Dreams conform to no ideals that imply obligations as to what is consistent logically, what is right morally, or what is commendable æsthetically. Such standards and ideals control only our sanctioned thinking; as a reward of persistent effort has our conduct come to be dominated by ideals of truth, virtue, and fitness, all of them the expression of an enduring volition, all of them variously contributive to personal character.

In *résumé*, then, dreaming becomes representative of the subconscious form of mental procedure because the mind is therein dependent upon inner resources, is freed from the watchfulness of self-observation, takes no heed of the channels through which its material is borne, has no world of reality to impose upon it the binding regulations of what is possible, right, or commendable; has no goal to reach, but only a playful purpose to serve; and so may wander far afield, as does the waking mind in the recreation of its idle musings. Yet with this dominant temper dreams quite as consistently show their allegiance

to that other form of regulated thought from which these contrasts distinguish, but do not separate it. An equally important group of traits of the dreaming self shows close kinship, in the resources which it commands, in the manner of their elaboration, and in the interests and obligations which it assumes, with the dominant waking self which, through the agencies of endowment and experience, has brought into being the self that each has become by eliminative encouragement and suppression from among the possible selves that he might have been.

III

THE VARIANTS OF DREAM-CONSCIOUSNESS

Dreaming, from the point of view of waking activity, is a manifestly and variously distinct type of mental procedure. It has, however, been set forth how the psychic operations, emerging during natural sleep, conform to definite types, and present groups of traits and their variations that contribute to the natural history of the normal mind. Yet without departing too radically from familiar experience, the psychologist has occasion to observe the occurrence of forms of consciousness that, though dream-like, represent an altered combination of conditioning factors. These it is our present purpose to portray, though with coarser, less detailed strokes.

These variants of dream-experience are commonly set forth in terms of their inducing occasions or excitements, — a procedure that makes no pretense of determining their distinctive psychological status, but merely offers a convenient grouping. I shall limit this survey to a few varieties, selected by reason of the distinctive factors which they introduce. These may be conveniently

presented under three groups; the first taking account of minor variations from normal dreaming, while the scope of the other two is sufficiently indicated by the terms, "delirium" and "drug-intoxication."

There is an interesting transitional state that appears to some more readily in the period of conscious surrender to, and a passive acceptance of, the approaching slumber, and to others in the moments of waxing wakefulness, favorably in the partially aroused moments that follow upon a brief doze; or, it may be, in a retrocession from a moment of wakefulness back to a dreamy state. Many years ago a discerning student of dream-life, Alfred Maury, gave to these phenomena the name of "hypnagogic hallucinations," a term that suggests that they appear in the inducing moments of sleep, and that they are commonly projected as phantom pictures. Such dream-like appearances are probably quite familiar, though not recognized as distinctive. They might naturally be regarded as the persistence into a more wakeful moment of an actual dream-scene,—such waking perception or even outward projection of a vivid dream-picture being itself an established occurrence. It is, however, characteristic of this state that it involves an undeveloped, inattentive recognition of one's surroundings, and that the subject realizes both where he is and that he is

close to waking. He is aware that the objects about him are familiar, though he gives them no penetrating recognition, — possibly assimilating them into the matter of his externalized dream-pictures, and throughout maintaining a markedly receptive attitude towards the floating contents of his mental panorama. He gives himself over to the delusion, which the veritable dreamer rarely suspects to be a delusion, of being a spectator instead of stage-manager and playwright in one, — and yet of being a peculiarly influential spectator, who now and then, by sending forth proper mental effort, inclines the sequence of scenes to his wishes. He supports the issue with something of the feeling that one has when, after making a shot in billiards, and the rolling balls indicate that the point will be barely made or barely missed, he follows the movements with a foolish straining of cue and head and body to will "his" ball ever so slightly to the desired direction. In maintaining a relation to the world without, in a partial awareness and orientation, in the supporting assistance of the thought-movement, and in a felt nearness to more alert consciousness, do these hypnoid states show the ear-marks of their hybrid character.[1]

[1] These states clearly overlap the waxing and waning conditions of ordinary sleep, the dream-movements of which we have had occasion to consider. (See pages 182–187.) Yet there exist significant differences: the former involve a gradual, rather than a sharp transition from normal waking to normal sleep; the pre-

It is not the form and content, but the subjective relations of such dreams, that distinguish them from the dreams of true sleep. The one factor that expresses their peculiar contribution to the psychology of dreaming relates to the presence therein of some form of hallucination, some outward projection as real or partly real, of a sense-impression that has no other than a subjective basis. Such are hallucinations, whether they are believed to be real (as occurs in many, but by no means all the hallucinations of the insane), or whether their peculiar status is recognized by the subject himself. The vivid pictorial content of true dreaming may involve a closely allied type of brain-disturbance; yet, judged by dream-standards, what the dreamer sees is as real as what he feels; and both are as intrinsically credited as are the reports of waking consciousness and the verifiable stimuli of the mundane sphere. When we awake, we know at once that the terrifying crea-

sent group arises because in peculiarly disposed constitutions, there may intervene between the two a state diverging from ordinary dreaming in the direction of an abnormal state, conducive to the appearance of certain phenomena that are characteristic neither of normal waking nor of normal dreaming. The "hypnagogic hallucinations" (perhaps "dream-projected" visions would be a more expressive name) belong to the latter group, though presenting affiliations, rather than standing in serial connection with the other. It is also likely that the status of the circulation and tension of the brain in the two states presents divergent conditions. The liability of imaginative children to these half-waking states seems well established.

tures of our imagination are purely fictitious, though the fear to which they gave rise was a genuine psychological experience. But if these same figments appeared to our waking eyes, within the walls of our actual habitations, they might inspire no fear at all, and yet be true hallucinations. Such dream-hallucinations, waking dreams, or false dreams, are important in that they aid in determining the status of this projecting process; and in this respect they bear close analogies, on the one hand, to the still more deliberate and objective "crystal vision," in which, it will be recalled, a glance into a reflecting surface reveals to the properly qualified subject moving pictures of his subconscious train of thoughts; and again, to the more passive, less intent procedure — a common pastime of imaginative children — of watching the figures in the dark with the eyes pressed against the pillow.

These spontaneous series of pictures, that appear to the closed eyes, are distinctly superior in richness of detail to the deliberate waking effort to wander in mind through the same scenes. This is by no means the added quality of concentration that enters by shutting out the objective world, for it cannot be applied to any of our memory-images at will; that essential dream-factor of receptivity, of awaiting the passing show, is here as characteristic as in the deepest dreams. A sug-

gestive corroboration of this trait is found in the observation that frequently the picture appears brilliant and detailed but without identification; and the waking part of the mind is set on a logical search to give a local habitation and a name to what has been spontaneously aroused. In this, as in other details, does this variant dream-state proceed by steps, some of which belong to the dreaming and others to the waking world.

I cite some personal experiences, and do this without apology, because so many of the recorded instances are defective along the lines of the present exposition. In settling myself to sleep, I found against the dark but luminous background of my closed eyes a very distinct picture of a street, with a line of ancient wall enlarging at close intervals into battlemented towers. I had a convincing feeling that the picture showed something that I had actually seen; and, as I followed its unfoldment, I was presently confronted with a ruined Roman arch. I awaited further fragments, and soon found myself viewing a river spanned by a picturesque bridge; then I deliberately followed the course of the river and caught glimpses of the opposite shore, of the old houses on the town side, of narrow streets and carved archways, of an early Gothic church, inclosing in one of its exterior arches a composition in stone, — a group of curiously sculptured figures, — set low, and very dusty with accumulated dirt; all still unidentified. I then wandered back to the main avenue, and in a large square fronting thereon, saw the statue of

a French statesman whose features I knew, but whose name for the moment refused to come ; and then I entered a bookshop near by. There I found the clue to the whole series, hitherto only the dissociated scenes of a traveler's recollection, probably through the labeled views there displayed ; for I seemed suddenly to know that the town was Cahors, my whole acquaintance with which was a seven hours' sojourn six months previously. Let me emphasize that my waking attempt to retrace this experience was feeble, though not without success, the details being few and the pictures faint; and secondly, that the development of the successive vistas, which all along I felt to belong to the same or related spots, I had passively to await, though supporting the effort by an interested attention.

On another occasion, in the moment of sudden awakening in the morning, I observed a very vivid image of a curious bird about which I had evidently been actually dreaming. It was something like a partridge or a golden pheasant, and I was calling upon some one to look at it. This call seems to have been a stifled cry, sufficient to arouse myself, but not wholly; and in this half-aroused moment I reasoned, after the manner of dreams, that this was not the rare owl reported as seen by the members of the "bird-class," — an item read in the local paper the evening before. With the waning of the bird-picture came complete awakening, and the feeling that the reasoning in which I had just indulged was somewhat irrelevant.

Different observers report these objectified visions, of whose subjective nature the visualizer is commonly well aware, in somewhat varied, though

not inconsistent terms. "In my case," says Mr. Greenwood, "as in M. Maury's, these faces usually appear in the dropping-off-to-sleep time. But they also appear when I wake in the night; and the effect of their coming on either occasion is to dispel the 'tween-sleep-and-waking twilight and fix a critical attention on themselves. Yet they are never seen except when the eyelids are closed, and they have an apparent distance of five or six feet. Though they seem living enough, they look through the darkness as if traced in chalks on a black ground. Color they sometimes have, but the color is very faint. Indeed, their general aspect is as if their substance were of pale smoke; and their outlines waver, fade, and revive (with the effect, though not the aspect, of phosphorescent limnings), so that, except for the half of a moment, the whole of the face is never clearly or completely visible at one time. Always of a strikingly distinctive character, these visionary faces are like none that can be remembered as seen in life or in pictures; indeed, one of their constant and most remarkable characteristics is their convincing *un*likeness."

M. Maury's visions were in the nature of brief resurrections of familiar objects and persons, and at times appeared under his drooping eyelids when yielding to fatigue. While reading of the primitive life of southern Russia, in a momentary relaxation he saw a man in brown garb, like a capuchin, suggestive of a figure in one of Zurbaran's paintings; while reading on animal instinct, he similarly visualized a lion in the pose and under the circumstances in which he had seen a caged lion in his Oriental travels. Such expe-

riences he connects with retinal disturbances; and Professor Ladd accounts for his own visions in similar terms: "All manner of inanimate things, of animals, plants, and human beings, seen in dreams, may resolve themselves into the fantastic schemata of the retinal field, if we can only manage to surprise these schemata with an observing critical consciousness." Mr. Galton has collected a variety of experiences among persons who have the power partly to control and partly to await such externalized visions. Included in his collection of cases, that as a whole have to do with waking hallucinations, are some definitely suggestive of an hypnagogic origin. They present the same vividness and tendency to sequences of transformation, — such as showers of red roses turning into a flight of golden spangles, or, in another instance, bright golden sparks turning into a flock of sheep rapidly running down a hill. Professor Herrick's view is corroborative; he notes the kaleidoscopic frequency of change of face or object, likening them to the changes in form of cloud-pictures; though in his experience they cluster about wholly unreal and imaginary things. Mr. Greenwood offers the suggestion that the remarkable and clearly abnormally inspired paintings of Blake had their origin in this type of hallucination. "I am inclined to think so because his wonderful drawing, 'The Ghost of a Flea,' is precisely such a transcript as I could have made by the score but for lack of his pictorial skill. Under my own eyelids I have seen many a face of the same awful family; and some more dreadful still, being alive and astir with animation."

In leaving this interesting variety of dream-experiences,[1] their analogy to otherwise induced conditions should be noted. The close affiliation of these hallucinations to those to be presently encountered as the result of drug-intoxication will hardly be overlooked. They also find their counterparts in sudden and unexpected intrusions, into a waking moment, of hallucinated appearances, — thereby indicating some real, but undetermined origin in a specific brain-excitement. Likewise do hallucinations of comparable status occur in disordered minds. They have been called pseudo-hallucinations, and are commonly distinguished by the subjects thereof from the full-fledged variety with which disturbed minds are also likely to be troubled. They may be regarded as the result of

[1] It may be pertinent to note that there occurs occasionally a condition of dream-stupor that may be induced in predisposed sleepers by sudden awakening, though it also occurs spontaneously. The subject thereof finds great difficulty in regaining consciousness, as also in getting control of muscles and sense-organs. He may reel and stagger, rub his eyes, and make efforts to keep them open, apparently struggling against a relapse into deeper sleep ; and, somewhat dazed and befogged in his perceptions, his condition suggests the intoxication through the action of a drug. At times also he proves to be suggestible and able to perform routine actions in an automatic fashion. An energetic stimulus, such as a dash of water upon his face, may be needed to arouse his dormant faculties. The condition is interesting as illustrative of the variety of behavior that may intervene between the sleeping and the waking consciousness, and in turn suggests definite, though unidentified, processes within the brain.

stimulation of certain brain-areas, that may arise under quite different occasions, all of them favoring definiteness of projection, and furthering the spontaneous flow of subconsciously derived memory-images.

I cite a single instance recorded by one who, when fully recovered from his mental trouble, was able to appraise the precise status of his abnormal experiences. He was subject to a variety of exciting hallucinations, that came to him as voices out of a hollow in the wall. On one occasion the words thus emerging and solemnly spoken were, "Change your allegiance." Being a Russian subject, he interpreted the command to mean that he must renounce the Czar; and he accordingly decided to become an English citizen. With this he saw in natural size a lion, that for an instant placed its paws upon his shoulders, causing actual pain; and the voice in the wall said, "Now you have a lion — you will rule." At this juncture he recalled that the lion was the symbol of England's power. Though the touch of the lion seems to have been an hallucinated sensation, the lion itself, as the patient knew, was a creation of his mind's eye. It gave rise to no fright; yet it was real enough to be brought in associative correspondence with the message of the voices, that in turn were hallucinations. Thus subtly does the disordered mind present both analogies and differences to the dreaming incidents of a normal brain.[1] — Kandinsky: *Sinnestaüchungen.*

[1] Undoubtedly many of the recorded historical hallucinations were of this transitional type. As Dr. Maudsley aptly notes:

An allied status to the conditions just considered may be assigned to the varieties of delirium; and here likewise do transitional phenomena occur in nervously constituted persons who, though otherwise in good health, occasionally fall (and it may be during sleep) into a condition that is pervaded not by ordinary dreaming, but by this distressing and half-conscious type of mental wandering. It is true of all these states that the subject has so far lost control of any power of analysis, is so entirely immersed and usually distressed amid the obsessions of the insistent and absorbing world of his own creation, that he brings to more normal consciousness only a pained emotional state and a confused impression of its incentive. In these semi-delirious dreams there is a troubled feeling that persists, and possibly with accompanying analysis of its origin, through the intermittent emergence into a nearly waking state; but the struggling consciousness soon falls back — like a bound captive — into a form of mental helplessness, with an undercurrent of desire to

"When Luther saw the Devil enter his chamber at Wittenberg and instantly flung the inkstand at his head, he seems to have been neither horrified nor greatly surprised, and to have resented the visit rather as an intrusion which he had expected from an adversary with whom he had had many encounters; but had the Devil really surprised Luther by walking into his chamber, I doubt whether he would have been so quick and energetic in his assault."

arouse itself and shake off this oppressive coil. Commonly there are changes of personality, the dreamer being transformed into something else or somebody else; or there is a drifting off into unknown worlds with a subsequent reëntry into a former phase of existence, — all in nebulous terms with pervading depressive emotions, gradually giving way to longer periods of real wakefulness, in which organic discomfort and painful sensations within the head commonly persist. Of delirium accompanying high temperatures, or ensuing upon congested conditions of the brain, a similar description would be apposite. In all such states the determinant factor is the personal disposition; and physicians who deal especially with children attach significance, in gauging the constitution of their patient, to the particular point of the bodily temperature at which delirium ensues.

In conformity with the status thus assigned to them, we shall not expect the wanderings of delirium to present any distinctive psychological character, save in so far as this may result from a specific physiological condition. The latter is consistent with a state of the brain that is not sleep, that is distinctly excited, that easily goes over into motor expression, and equally projects the brain-excitations into vivid and persistent hallucinations. Delirious patients thus typically shout and talk, laugh and cry, roll about in agony, gnashing

their teeth and cramping their limbs, occasionally throwing off the covers, or jumping off the bed, and even doing personal injury to themselves or others. They live in another world, do not recognize the surroundings which none the less are present to their senses, and in the lucid intervals between the more violent delirious attacks, are able to give some account of their troubled fancies, as well as to come into more normal relations with their environment. All depends upon the temperament of the patient and the mode of attack upon the brain-tissues which the fever pursues.

One such patient recalls from among a great whirl of chaotic fancies only this recurrent sensation. He seemed to realize that he was ill and in the hospital, and that there he had access to a peculiar system of transportation, after the manner of the little wire baskets sometimes used in department-stores to carry parcels and change; and that this was his method of visiting different portions of the city. He was invited to supper and a theatre-party, and to reach his destination entered his traveling basket and returned by the same means. On one occasion, when the nurse awoke him at night to administer medicine, he told her that he would never ride in a street-car so long as that convenient basket was waiting outside. A football player, in a similar condition, sat up in bed and shouted out the signals for a game in which he was about to participate. The nurse, alarmed by the possibility of a

delirious "rush," called for assistance; and presently the patient jumped from the bed and violently struggled against the assembled persons, who, to him, were the opposing team blocking the way to victory.

Another instance reflects less of the active and more of the ruminating fancies of the delirious. The patient seemed always in some deep trouble; to be sunk in a pit or to be climbing measureless heights. He moved upward on a ladder, only to find himself again at the bottom; or it was incumbent upon him, Tantalus-like, to make two objects fit, one of which was altogether too small for the other; or some lost object had to be found, and a maze-like wandering undertaken in an endless quest. These journeys were attended by some incoherent talk, and occasional groans and cries, from which fragmentary suggestions an outline of the dreamer's occupation could be pieced together. In another instance a delirious student was convinced that he had gained some peculiar psychic power by which to influence the actions of others, even to the point of annihilating them by his mysterious force. By this means he had collected in a cave under the house a number of captives, who were kept there through his potent influence. After practicing this art for a time, he entangled in his net a professor to whom he bore a strong dislike; and with one all-powerful look shriveled him up to a mere handful. In a more wakeful state the dream would be resumed; and in this instance remorse for the professor's death set in, and later induced an entrance into another dream-episode in which the captives were all liberated.

On the whole, delirium contributes but moderately to the varieties of dream-experience. Their distinctive status centres about the condition of brain-excitement, that is in contrast with the quiescence of sleep, that favors hallucination and the active motor type of dream-progression. It presents affiliations with normal dreaming by the manner in which it elaborates its material, and by which it derives it from inner excitations and the subconsciously stored memory-images. The chaotic and extravagant, and at times the systematic and recurrent phases of the delirious wanderings and the vivid reality of the hallucinations present analogies to characteristic symptoms of more permanent and more organic brain-disorder. Among drug-intoxications its analogy is with certain stages of alcoholic excitement. Through these several affiliations, and through its specific physiological connections, delirium presents a group of phenomena corroborative of the general relations that form our present concern.

Of all the means that the psychologist commands to transform the genius of his mental life, none seems more inviting than the permit to enter other worlds by the magic of a potent drug. Indeed, this easy avenue of escape from the humdrum round of flat and stale experience has been a refuge in all times. Almost all civilizations have delved sufficiently into nature's secrets to dis-

cover some form of earthly transport, some ceremonial rite, to give a setting to the god-given rapture. Most of the drugs that act as psychic poisons we owe to the discoveries of primitive peoples, or to the indulgences of Oriental mysticism. Certainly their action is evidence, the most convincing to be desired, of the conditioning power of physiological brain-processes upon what we shall feel and think; a few whiffs of a gas or a slight injection under the skin, or the chewing or smoking of a vegetable preparation, may completely transform character and personality, wholly transport to another mental world. In this field our knowledge is almost entirely empirical, merely the variable record of experience, with only occasional insight into the connection by virtue of which the effect ensues. Let us attempt in a frankly descriptive essay to set forth the general features of a few of these drug-intoxications, considering them in two classes, according as they induce a rather prompt and general loss of sensibility and consciousness, or as they modify more exclusively the mode of behavior of our associative mechanism. The first group are the anæsthetics, such as ether, chloroform, nitrous-oxide gas, and allied compounds; while the latter may be termed the intoxicants, deliriants, or psychic poisons.

As the effect of the anæsthetic, if continued, is

to induce more or less unconsciousness, it will be only in the transitional stages, before the appearance of the so-called surgical stage, and still more favorably in the longer periods of recovery from the loss of consciousness, that the mental experiences will leave an impress sufficient to their recall upon recovery. The nature of the anæsthetic, the period of its operation, and decidedly the temperament and condition of the subject, enter to determine the content and quality of the artificially induced mental progression. I shall again select, in conformity with my central purpose, a few illustrations of dreams and visions under drug-incentive, that offer analogies and pertinent contrasts to the dreams of normal sleep and to the states of differently affected consciousness, which are next to be considered.[1]

[1] Referring to such a work as that of Dr. Hewitt (*Anæsthetics*, 1901) for an adequate account of the bodily and mental alterations which the several anæsthetics induce, I note here merely that nitrous-oxide gas is very quick in its action, inducing a brief anæsthesia, such as is adequate to the extraction of a tooth within a minute or more, or less; while ether or chloroform, according to the manner of administration, will act in from five to thirty minutes, the latter more precipitately; that these "surgical" anæsthetics present ordinarily stages of influence; the first, a stage of excitement, in which there is a rapid flow of ideas, only partial loss of sensibility and of the power of movement (the latter disappearing before the former), along with a persisence of reflex actions and a dulled sensibility to pain; the second, a stage in which these several processes diminish in degree, leaving a confused train of ideas, practically no power of response, the action of only a few

Presentative dreams under partial anæsthesia are frequent and pronounced. Most commonly are the dreams suggested by the subjective noises — a buzzing or singing in the head — which the initial action of the drug induces.[1] They are quite generally interpreted as the noises accompanying locomotion, such as traveling in a train, or a trolley, or a carriage, or an automobile, though occasionally suggestive of other vibrating sounds, such as those of a machine-shop or factory. This auditory clue is followed with a simple, or, it may be, with an elaborate variety of interpretations, which at times give way to a more reflective dream-construction. Of like influence are the impressions through eye and ear and touch, which the subject may still be able to receive in regard to what is said and done in the operating-room, and the bodily sensations induced by the procedures of the operation.

I shall at once put together a group of cases easy of interpretation. A dentist instructed his patient, to whom he administered nitrous-oxide gas, to raise and lower her hand from time to time so long as she could control the movement. Her mo-

deeper reflexes, and the dream-life of an inner contemplation; and the third, a stage, which is the stage of operation, in which mental life is practically wholly in abeyance.

[1] In dental operations the contact of the instruments with the teeth may induce actual sounds, readily transmitted to the ear through the skull.

mentary dream was that of riding in a stage-coach, and of being pursued by robbers, who demanded that she hold up her hands. In the period of recovery (nitrous-oxide gas), a woman of Celtic extraction, while the dentist was forcing her into a position convenient to discharge the blood from her mouth, suddenly struck at him, with the words, "Don't you hold me, I'll slap you." When later informed of her action, she explained that in her dream she had entered a street-car, and that some one had tried to detain her; and to him were her words addressed.

The following is the recollection, after many years, of the extraction of a tooth during boyhood (light dose of ether). The boy was standing with his parents at the railway station of the town in which they lived. The noise of the approaching train was heard, and was then continued in the sound of the grinding of the brakes and the escape of steam, as the train came to a standstill. They all entered, the boy taking a seat on a stool in the middle of the aisle. Presently a brakeman approached from over the top of a car (as brakemen do on freight cars), and somehow reached a position over the boy's seat. Here he began boring through the roof of the car with a huge auger, which gradually pierced the wood and then suddenly came through and transfixed the boy to his seat,— the last, obviously, the moment of extracting the tooth.

A lady had two teeth drawn under an anæsthetic, and after the removal of the second wailed aloud, "What is the use of it all?" Upon recovery she explained that she had dreamed of dying in great agony (tooth number one), then of being born again in equal pain (tooth number two),

while her remark was a protest addressed to the Deity; and it may be added that the whole period of the operation was about twenty seconds. A young lady upon her way to the dentist's met her bosom friend. This left a pleasing impression on her mind as she succumbed to the anæsthetic (nitrous-oxide gas), and set her to dreaming of an excursion in company with her friend, when unexpectedly her companion grew cold and harsh, and finally expressed her displeasure by slapping her on the mouth with a book. Another young lady in the period of recovery (chloroform) showed her suggestibility in a marked manner. The window was opened to hasten her coming to; and a friend, present at the operation, feeling a draught, slipped on a bath-robe. Upon observing this action, the patient complained of feeling cold, and a moment later, noticing another attendant collarless and with sleeves rolled up, asked to be fanned in order to cool off. A shout from a boy passing on the street aroused the remark, "That must be Lilian B.," a playmate of her childhood. This seemed to start off a revery of her schooldays, which continued until another voice suggested a different train of ideas.

An apt instance of the persistence of a visual stimulus into the "nitrous-oxide" dream is furnished by the experience of a dentist's office, the ceiling of which was papered with a complex geometrical design in dark contrasted colors. The last impression, by most persons subconsciously observed, that reached the patient's eyes, as he settled back upon the chair, was of this pattern; and a common vision during the minute's loss of consciousness was that of a kaleidoscopic play of

geometrical forms, far more brilliant and effective than the objective counterpart. The motor phenomena, analogous to the dream of natural sleep that is carried over into action, are readily observed, particularly in the exciting stages. The patient may weep or shout or laugh or pray or strike out violently, and occasionally perform some routine action. For instance, a barber, emerging from a brief anæsthesia (nitrous-oxide gas), went through the movements of stropping a razor, while dreaming that he was shaving a customer and that he became sick at his task (the nausea due to the gas). Under like circumstances, a young man went through the movements of playing hand-ball; and a child jumped from a dentist's chair, alarmed by the skeleton which her dream-vision had conjured up.

The charges upon the receding consciousness are carried out, so far as may be, in the altered condition; and usually in a characteristic dream-manner. Thus, one who, upon inhaling the ether, was told to count to himself and to speak out the hundreds, recalled that he was at "thirty-nine" when he lost power to go on, and on awaking an hour later immediately began to count, "one hundred, one hundred and one, one hundred and two." This he did before consciousness returned; he knew nothing of the operation or of his counting, the incident having been observed by the attendant. Similarly, a lady who objected to the gag in her mouth (for the extraction of a tooth under nitrous-oxide gas), because of its interference with her screaming, actually kept up a constant howl throughout the operation, but upon coming to was unaware that she had made any

noise, though she recalled that she had dreamed that she was screaming.

I proceed at once to certain more complex mental contemplations. After breathing the ether vapor for about ten minutes, the subject, a school-teacher, remarked, though already in a condition that left no waking memory, "The ether tastes like Mrs. P.'s [her landlady's] mint sauce." The subject remembered that in the inducing stage she imagined herself at the sea-bordering town in which she lived, and heard the surf splashing against the rocks. Also did she remark (at a moment identified with the subjective ringing in her ears), "This is P.'s machine-shop." In losing consciousness she had the feeling of moving with terrific speed through chaos, a sensation that was resumed in recovery, and was followed by the idea that she had made a wonderful discovery, and had found the point where the infinite merged into the finite. This discovery was to be made public and to receive the approval of educational circles. Actually her first words were, "Oh dear! I have been such a long way off." In the rather long period of regaining consciousness, she showed herself responsive to sensations and emotions and indulged in conversation: "I am going on the stage." "You are?" "Yes, I am going to sing in 'Parsifal.' I can get $7000 for that, and you would not teach school for $600, when you could get $7000 for doing that, would you?" (She had actually sung at a small gathering, and had heard of a singer who commanded a large salary.) When, to allay her excitement, a morphine injection was to be used, and she caught sight of the syringe, she recognized it and threatened to

cry out if it were applied, but actually received the puncture with but faint protest. At this stage she experienced rapid and chaotic flights of ideas, and felt the presence of impulses to do things with no desire to counteract them (suggestibility), — all in analogy to ordinary dreaming.

In this record we meet a notable and perplexing element in these anæsthetic dreams, — the metaphysical conviction of piercing the secret of reality. It is an experience frequently reported, and naturally by persons of philosophic, reflective temperament. I shall give a few instances, preceding them by one or two others that lack this intuitional factor, but reflect the professional interest of the subject.

A physician under ether for the removal of the appendix, in a moment of lighter anæsthesia had the impression (of course purely fictitious) that the operator was making the incision over the left, instead of over the right iliac fossa, and in his dream both wondered at and protested against the blunder. Another physician (under chloroform for an operation upon the hand) immediately upon recovery made this note: "I thought I was myself giving the anæsthetic, while some one kept anxiously inquiring through a telephone, 'Is he all right?' until I was in an agony of fear lest he might not be so. I thought my hand was restrained (it was doubtless the case) whenever I attempted to give more chloroform. I heard the sound of the sharp spoon on the warts, but felt no

pain, and thought they belonged to my patient." The words, "Is he all right?" were actually spoken by the operator, while the telephone may have been only another interpretation of the subjective sound in the ears. The same observer relates the following experience: "On another occasion whilst under ether, I became a noble lord seated in a magnificent chariot in the 'Row' at the height of the season. I was hopelessly and deplorably intoxicated, and yet became aware that an attempt was being made to photograph me in this undignified condition. I shouted to the coachman to drive on, but instead of obeying me, he and the footman pressed a mask over my face. I smelt ether, and struggled madly to prevent them taking the photograph, which I thought was being done for a wager and would be all over London the next day." The words, "Drive on," were addressed to the operator by the anæsthetist, and doubtless suggested the dream.[1]

So long ago as 1800, Sir Humphry Davy, while experimenting with nitrous-oxide gas, described the feeling that pervaded his reflection thus: "Nothing exists but thought. The Universe is composed of impressions, ideas, pleasures, and pains." This metaphysical pronouncement is

[1] Whether the rest of this dream is susceptible of rational interpretation, is not recorded. One may hazard the suggestion that the odor of ether suggested the odors accompanying the photographic manipulations; and likewise that the sitter and the patient both pose as subjects of an operation. Be this as it may, the incidents are suggestive of a connection with real, though subconsciously utilized, relations with actual circumstances.

variously experienced, and occasionally with a visual projection, such as the intent following of parallel lines or loops in mystic symbolism, with a conviction that they reveal the nature of reality.

In one record this extra-bodily feeling is thus expressed: "I suddenly experienced the extraordinary impression that my spiritual being stood visibly outside my body, regarding that deserted body lying on the bed." In another in these words: "When under chloroform, the Platonic ideas came to me that Matter was only phenomenal, while the only reality was that which underlay Matter — viz., its spiritual substance."

Sir William Ramsay's experience is accurately and interestingly recorded. He noted the introductory stages in which consciousness still persists, but in which dream-motives begin to occupy the attention. His senses responded to the subjective stimuli that the anæsthetic aroused. The taste was suggestive of peppermint; he heard a sound as of two tones, the one a harmonic of the other; his eye played with figures of parallel lines which formed a grate-like pattern; and then there came the deeper, more unconscious stage, bringing the true revelation. "An overwhelming impression fixed itself upon me that the state in which I then was, was reality; that now I had reached the true solution of the secret of the universe, in understanding the secret of my own mind; that all outside objects were merely passing reflections on the eternal mirror of my mind; some more, some less transient." This experimenter also tested his power, during at least part

of these inner contemplations, to maintain relation with the world of reality. He tried to rehearse his morning's occupation, his walk down Oxford Street, and found that he could do so, but that these memories impressed him as a fleeting vision, something quite trivial and transitory. "The main and impressive fact for me was that *I* was self-existent, and that time and space were illusions. This was the real *Ego*, on whose surface ripples of incident arose, to fade and vanish like the waves on a pond. . . . But to test the truth of this conception, I have generally noted the objects near me. Some one, perhaps, made a remark; for example, 'He has had nearly enough now.' This remark wearied me, because I had heard it so often before; I conceived a low opinion of the being who could pass his life in saying such a trivial and unimportant thing, and I disdained to answer. Or, perhaps, my eye caught sight of a Bunsen burner — a common object in every laboratory; and here again I knew that it had been there through endless ages. Some noise — the emptying of a cart of coals on the street, perhaps — struck my attention. I not merely knew that it had happened before, but I could have predicted that it would happen at that particular moment." [1]

[1] Sir William Ramsay also had his sayings recorded by an amanuensis; they reflect the dream-sense of personal illumination and also the reflective disappointment at the vanity, at least when recorded in words, of what brings with it a conviction of such exalted significance. In approaching normal consciousness he exclaimed, "Good Heavens, is this all?" This same sentiment, together with some infusion of the incoherence of drifting thought appears in the following oracular pronouncements: "This, one

Mr. J. A. Symonds, the well-known writer, has recorded his experience in the following words: "I seemed at first in a state of utter blankness; then came flashes of intense light alternating with blackness, and with a keen vision of what was going on in the room around me, but no sensation of touch. I thought that I was near death, when suddenly my soul became aware of God, who was manifestly dealing with me, handling me, so to speak, in an intense personal reality. I felt Him streaming in like light upon me, and heard Him saying in no language, but as hands touch hands and communicate sensations, 'I led thee, I guided thee; you will never sin and weep and wail in madness any more; for now you have seen Me.' My whole consciousness seemed brought into one point of absolute conviction; the independence of my mind from my body was proved by the phenomena of this acute sensibility to spiritual facts, this utter deadness of the senses; Life and Death seemed mere names. . . . I cannot describe the ecstasy I felt."

Professor James, upon the basis of more than a single experience, testifies to the "depth beyond depth of truth" that seems revealed to the ether or nitrous-oxide inhaler. He is overwhelmed by an "exciting sense of an intense metaphysical

little piece of enormous coherence of Universe — utterly ridiculous in its smallness." "*This* is the scheme of the Universe and my being here — but I never reached the point of having taken ether before." "The Universe is in our brain. Is this a big thing? Do you hear the man sawing — more or less quickly? Now I breathe hard. Now I note appearance of a particular man there [pointing to fireplace], whom I never asked you to note before, nor will now, but he appears as part of the Universe."

illumination. Truth lies open to the view in depth beneath depth of almost blinding evidence. The mind sees all the logical relations of being with an apparent subtlety and instantaneity to which its normal consciousness offers no parallel; only as sobriety returns, the feeling of insight fades, and one is left staring vacantly at a few disjointed words and phrases, as one stares at a cadaverous looking snow peak from which the sunset glow has just fled, or at the black cinder left by an extinguished brand." Though the inspiration leaves a wholly evanescent or trivial vestige, it is accompanied by a sense of reconciliation, of solution of the opposing contradictions of life, that remains after the experience is valued merely as a dream. Professor James's "anæsthetic" utterances, which at the moment seemed to him to overflow with significance, seem to harp upon a series of contrasts, for which ordinary terminology is inadequate, if indeed it does not construe them into nonsense.[1] One of his correspondents like-

[1] One of these sentences reads: "By George, nothing but othing;" while another similarly insists that "it is not nonsense but onsense;" all this in a vague but passionate attempt to put into words the intensity of the anæsthetic revelation. Indeed, under this title there is an interesting account by one who is thoroughly convinced of the objective validity of the experience under anæsthetics; to him it stands as the moment of religious and philosophic enlightenment, of an all-embracing inspiration, in which one reaches behind the mere semblance of things, and stands face to face with truth. All this is interesting, as indicative not only of the overwhelming impression which the experience makes upon a sensitive mind, but likewise of the variable manner of absorbing what is, at best, a type of emotionalized sense of conviction, itself defying the narrow formula of waking rationality. The interpretation given to these experiences by Professor James is sug-

wise writes: "I seemed to be directly under the foot of God, and I thought He was grinding his own life up out of my pain. . . . At the acutest point I *saw*. I understood for a moment things that I have now forgotten, — things that no one could remember while retaining sanity."

I must also remind the reader of Dr. Holmes's account: "The veil of eternity was lifted. The one great truth, that which underlies all human experience, and is the key to all the mysteries that philosophy has sought in vain to solve, flashed upon me in a sudden revelation. Henceforth all was clear: a few words had lifted my intelligence to the level of the knowledge of the cherubim. As my natural condition returned, I remembered my resolution, and staggering to my desk, I wrote, in ill-shaped, straggling characters, the all-embracing truth still glimmering in my consciousness. The words were these (children may smile; the wise will ponder): 'A strong smell of turpentine prevails throughout.'"

It falls beyond our present purpose to set forth the great variety of sensory and mental experiences sequent to the toxic effect of drugs upon the higher nervous centres. Their citation may be profitably limited to such as bear upon the analogy of the waking dreams of intoxication to the normal sleeping dream, and to the characteristic transformations of mental experience induced by anæsthetics. The effects of an indulgence in

gestive. See his *Varieties of Religious Experience*, pp. 389 *et seq.*, and also the essay on "Some Hegelisms," in *The Will to Believe*.

opium or hasheesh or mescal present decided differences; and their psychological action is prominently determined by the possessions and constitution of the brain which they affect. De Quincey appropriately remarks that, "if a man 'whose talk is of oxen' should become an opium-eater, the probability is that (if he is not too dull to dream at all) he will dream about oxen;" and surely his own case presents the complex issues of an inherited sensitive temperament, a marked literary imagination, a sentimental reaction to the experiences of life, together with the physical conditions of severe hardship in youth, actual bodily disorder, and the cumulative effects of the opium poisoning. It is somewhat difficult to estimate the psychological value of his confessions, in spite of the obvious sincerity and discerning introspective powers of the narrator.

It is interesting to recall that he referred the source of the dream-imagery of his later visions to his experiences of early youth or to incidents many years in the past. "The tyranny to the human face" [1] that with its endless transformations haunted his dreams finds in part a definite incentive in the face of an unfortunate girl who

[1] "Now it was that upon the rocking waters of the ocean the human face began to appear; the sea appeared paved with innumerable faces upturned to the heavens — faces imploring, wrathful, despairing, surged upwards by thousands, by myriads, by generations, by centuries."

befriended him when both were outcasts, wandering through the night in the streets of London. Another is the resuscitation of an appearance (surely unusual in a cottage in the Lake region of England) of a turbaned Malay in Oriental dress, who knocked at the door of De Quincey's home, and who, by his strange garb and stranger speech, naturally caused some consternation to the household. Indeed, the piece of opium that De Quincey offered the Oriental was their only point of sympathetic intercourse. It was the vision of this Malay that entered into the most terrifying of his opium dreams. It brought up with unimaginable horror fantastic tortures and an awful fate. "Under the connecting feeling of tropical heat and vertical sunlight, I brought together all creatures, birds, beasts, reptiles, all trees and plants, usages and appearances, that are found in all tropical regions, and assembled them together in China or Indostan. From kindred feelings, I soon brought Egypt and all her gods under the same law. I was stared at, hooted at, grinned at, and chattered at, by monkeys, by parroquets, by cockatoos. I ran into pagodas, and was fixed for centuries at the summit or in secret rooms: I was the idol; I was the priest; I was worshipped; I was sacrificed. I fled from the wrath of Brama through all the forests of Asia: Vishnu hated me: Seeva laid wait for me. I came suddenly upon Isis and Osiris: I had done a deed, they said, which the ibis and the crocodile trembled at. I was buried for a thousand years in stone coffins with mummies and sphinxes, in narrow chambers at the heart of eternal pyramids. I was kissed, with cancerous kisses, by crocodiles;

and laid, confounded with all unutterable slimy things, amongst reeds and Nilotic mud." In addition to these more spiritual terrors, there entered visions of physical horror, particularly associated with the crocodile. "All the feet of the tables, sofas, etc., soon became instinct with life: the abominable head of the crocodile, and his leering eyes, looked out at me, multiplied into a thousand repetitions; and I stood loathing and fascinated."

The conditions under which the opium-eater's dreams occur are distinctly variable, and from De Quincey's narrative difficult to determine. At times they seem to belong to true dreaming, though with an easy transition to a waking state; and again they are wholly compatible with the exercise of the ordinary powers of perception and movement, are, indeed, intermittently dismissed in favor of the occupations of the moment, even combining with these, and imparting to the situation an effect "exalted and solemnized by the power of dreams." It was, for example, at midday, during one of the recurrent variations of the Oriental dream, that the gentle voices of his children broke in upon his terrifying visions. "I protest that so awful was the transition from the damned crocodile, and the other unutterable monsters and abortions of my dreams, to the sight of innocent *human* natures and of infancy, that in the mighty and sudden revulsion of mind I wept, and could not forbear it, as I kissed their faces." In

illustration of the exaltation of the opium-excited brain that still maintains an easy and rational relation to the world of reality, De Quincey narrates that in the first periods of his addiction to the drug, he would so time his dose on Saturday as to enjoy at evening, with the added intensity of his excited imagination, the Opera at Covent Garden and the animated scenes in the markets about it, through which he wandered most of the night, transforming, though with recognition of his whereabouts, the small episodes of London life into the fascinating adventures of an idealized world.

Yet the intoxicant dream is a peculiarly uncertain indulgence; the determining influence of the individual constitution, as well as the vital difference of excess, may create a dreamer's paradise or a dreamer's hell.

Of the kind of experience which the novitiate may expect, I find no more citable account than that given by Dr. Clarke. Three inquiring medical students each partook of a moderate dose of *Cannabis Indica*, and at the end of an hour began to feel "queer," and decided to go to their several homes. In doing so, two of them had to exercise some self-control, were talkative and restless, but soon went into a sound sleep, and had nothing to report the next morning. The third experienced acutely the sense of amplification [1] and per-

[1] Of this an additional illustration: "Ascending a flight of stairs from his sitting-room to his bedchamber seemed to occupy time enough for a journey from Boston to Washington and back. It required a century for the winding of his watch."

sonal exaltation which that drug at times induces. He was intensely impressed with his own importance, with the beauty and proportions of his own person, and upon entering a street car felt compelled to mention these qualities to the conductor, dwelling upon the athletic build of his arms and thighs and his superiority to the puny passengers. Indeed, he advised the conductor to put these others out of the car, as persons unfit to ride with so august a personage as himself; and yet he had sufficient self-control to alight at the proper corner and to find his own home. Here again everything was transformed by the magic potion. The portal was magnificent, the hall imposing, the stairway grand, his wife a great lady. At this point the delusions became more systematic. His personality dissolved into two; the one a notable physician, the other an indigent patient, upon whom the former discovered an affection and decided to operate. Upon this the prospective surgeon went to his study and brought out some instruments, stretching out the supposed patient (likewise himself) upon the sofa. His wife was naturally alarmed, and at this juncture summoned a physician. But the dream-practitioner promptly dismissed his patient; and instead, his second self became a criminal, who was condemned to a shower bath. The real physician arrived in the midst of the bath; and the patient was induced to go to bed and to sleep. There were no after-effects the next morning; and he was able to recall the intense realism of his acting dream and the splendor of his visions.

I add, to reënforce the picture of such toxic dreams, the following narration of an early French

experimenter, Dr. Moreau: "I saw in my chest the hasheesh I had eaten as an emerald glistening with millions of tiny sparks. My eyelashes elongated, rolling like golden threads on small ivory wheels turning of themselves with astonishing speed." He saw curious creatures, half plant and half human, one of which addressed him in Italian, which the power of the drug turned into Spanish; yet during this fairy-play he was aware that his own answers to the imaginary conversation were fairly rational, and related to the gossip of the theatre and literature. In another vision, he passed his hand through his hair and immediately felt thousands of insects devouring his head. Then the vision was transformed: "In an atmosphere vaguely luminous, there fluttered with a ceaseless motion millions of butterflies, whose wings vibrated like fans. Huge flowers with crystal calices, enormous passeroses, with centres of gold and silver, rose and spread themselves before me with a whizzing like that of artificial fireworks."

The last experience emphasizes the visual predominance of the dream-appearances, a trait that reaches its most characteristic and brilliant expression in the drug-intoxication of mescal, a Mexican preparation.

Mr. Havelock Ellis has contributed to our knowledge of the psychology of this drug. In his own case, he experienced in the exciting stage a sense of energy and of intellectual power, but presently became faint and unsteady, and lay

down, though still able to read. He noted that a pale violet shadow seemed to float over the page, and that objects not in the direct line of vision became obtrusive and heightened in color; and presently a kaleidoscopic shifting, a constant play of brilliant color and symmetrical form, took the centre of the stage, remaining distinct, but becoming more and more indescribable as the evening progressed. At one time there appeared "a vast field of golden jewels, studded with red and green stones, ever changing." The air seemed flushed with vague perfume, and the visions, ever novel, kept on approaching and receding. "I would see thick, glorious fields of jewels, solitary or clustered, sometimes brilliant and sparkling, sometimes with a dull rich glow. Then they would spring up into flower-like shapes beneath my gaze, and then seem to turn into gorgeous butterfly-forms or endless folds of glistening, iridescent, fibrous wings of wonderful insects; while sometimes I seemed to be gazing into a vast hollow revolving vessel, on whose polished concave mother-of-pearl surface the hues were swiftly changing." The central theme was ever that of a highly elaborated color-play, not definitely suggestive of any real objects, but one in which the impressiveness of the mere sensation was dominant, and persisted with undiminished brilliance for hours.

There was no desire to sleep, and though Mr. Ellis could obtain these effects with his eyes open, they were more brilliant when viewed with the eyes closed. He was able to take a critical view

of his visions, to look about for similes to put them into words, to note that they reminded him of insects' wings, exquisite porcelain, elaborate sweetmeats, Maori architecture, Cairo filigree work, to comment upon the æsthetic value of the color combinations and upon the lovely and various textures, fibrous, woven, polished, glowing, dull, veined, semi-transparent.

An artistic friend who subjected himself to the same influence confirmed the glory of the mescal color-dream, the silent and sudden illumination of the commonplace objects about him, — a gas jet that sent forth flashes of color, a cigarette-box of violet hue, that shone like an amethyst, his clothing, that, as he touched it, would burst into flames. Other experimenters record certain organic sensations, — a feeling of heaviness of the limbs, — of faintness and nausea. In some cases the visions are more definite and relate to real objects, yet objects transformed in the glowing medium of color. One inquirer records that the back of his head seemed to open and to emit a colored light; another, upon taking a cup of coffee, seemed to see an arm reaching toward him out of space, — an arm separated from its body, and decked in glowing rainbow-hues; while in placing a piece of biscuit in his mouth, the interior seemed illuminated like the Blue Grotto at Capri.

Dr. Weir Mitchell's experiences describe more clearly how the color waves and patches and forms develop into objects of definite shape and character. From mere points of light and fragments of

stained-glass windows, "the display became suggestive of swelling clouds, always brilliant in color, and then their place was taken by more definite appearances." "A white spear of grey stone grew up to a huge height, and became a tall, richly finished Gothic tower of very elaborate and definite design, with many rather worn statues standing in the doorways or on stone brackets. As I gazed, every projecting angle, cornice, and even the face of the stones at their joinings were by degrees covered or hung with clusters of what seemed to be huge precious stones, but uncut, some being more like masses of transparent fruit. . . . As I looked and it lasted long, the tower became of a fine mouse hue, and everywhere the vast pendent masses of emerald green, ruby reds, and orange began to drip a slow rain of colours. All this while nothing was at rest a moment. The balls of colour moved tremulously. The tints became dull, and then, at once, past belief vivid; the architectural lines were all active with shifting tints. The figures moving, shook the long, hanging lines of living light, and then, in an instant, all was dark."

To these accounts should be added some description of the equally variable mental experiences under alcohol intoxication. The phenomena of the lighter stages of such mental alteration are familiar, and their points of analogy with the more unusual transformations of opium, hasheesh, or mescal will be appreciated without minute comparison. It will be sufficient to recall that under

a mildly exciting alcoholic dose, the flow of ideas is moderately stimulated; and in susceptible individuals the stage of relaxed control is easily reached. It may be nothing more than a confidential attitude, a loss of reserve, and a freer flow of spirits than would be consistent with the normal character. With increasing action of the poisoning, the delicacy of motor coördination is clearly affected, most sensitively in the expression of the muscles controlling speech, and in the delicate adjustments of eye and hand; while in still deeper, more protracted, and more abnormal intoxication, hallucinations and enforced trains of ideas of a delirious type take possession of what is temporarily a disordered mind.

The hallucinations of this alcoholic delirium have been well characterized by Dr. Clarke: "Less imaginative than those of opium, less royal than those of Indian hemp, they endow ordinary scenes and objects with life, and with life which is often ridiculous, sometimes tragic, and always vulgar. Lying on his bed, the victim of delirium tremens converts the rude pictures of his papered walls into a living and active panorama, transforming its irregular lines into crawling snakes and creeping things, its shadows into hobgoblins, and all about him into strange shapes. In the movement of his bedclothes, he sees the plunging of unnatural animals, giants in busts and plaster casts, and the face of a devil in the countenance of his wife; he hears the cries of the damned in the voices of

his children; and surrounds himself with scenes of unutterable horror, the distortions or caricatures of his surroundings."

While these deepest alterations of an excessive alcoholic intoxication — and most characteristically in cases of confirmed and accumulative poisoning — approach even more nearly than do the similar results of opium indulgence to the pronounced disorders of insanity, yet in the milder doses, the action of alcohol upon the nervous system affects the most direct and gradual abeyance of the higher executive centres. This, indeed, is its distinctive contribution to the psychology of drug-intoxication; and in so far as so much of our rationally controlled conduct involves constant regulation and suppression of impulses expressive of our nature, it follows that a partial release of these may bring to light, like the self-revelations of dreams, phases of character as truly belonging to the personality as those that are allowed to emerge in a complexly circumscribed life. The recognition of this relation has appeared in popular sentiment from the Roman *in vino veritas* down to its various modern paraphrases. Of such import is De Quincey's suggestion that a man is disguised by sobriety rather than by intoxication; and Professor James gives the psychological touch to the dictum in this contrast: "Sobriety diminishes, discriminates, and says no;

drunkenness expands, invites, and says yes." By its expansion it releases the restraints of logic, overrides the limitations of convention, frees from an earth-bound reality; it invites to an indulgence of natural impulses, to unrestrained imagination, to a sojourn in a world of abandon and irresponsibility. Though the freedom it affirms may require the sacrifice of reason and propriety, and the pleasures it solicits are not of the highest, yet the snares that it sets for moral frailty should not interfere with the correct appraisal of its psychological efficacy. It points out with peculiar emphasis how naturally, with even slight release of watchful guidance, comes the tendency to see things as fancy would have them, to forsake hard-gained distinctions of truth and error, of subjective and objective, of thought and dreaming. It affords scope to the freer expression of deeper relations and natural motives, among them the primitive, subconsciously impressed traits of our character.

The argument enforced by the survey of these variant forms of abnormal dreaming may be thus passed in review. When by some seduction of the brain we effect an altered type of consciousness, we seem at once to induce a flow of ideas more nearly approaching that of the dream-movement. The manner of such approach is variable, and divides most markedly at the point that permits or withdraws intercourse with the outside world, that

continues or disturbs the orientation of the self in its present environment, that allows or interferes with the assimilation of progressive experience, and conducts these with an alertness of mind that commands endowment and training, and leaves an available vestige in the memory-continuum of our personal growth. Whether the altered type of consciousness finds its place on one side or the other of this boundary, it leaves room for a considerable variety of further distinctive modifications. Though the drugged mind may remain awake, or partly so, it reveals its abnormality by projecting into the world of actuality (though it may be with adequate awareness of the fact) the creations of the excited fancy. Such creations may be most specific in type, such as the color-orgies of mescal, the sordid terrors of confirmed alcoholism, or the expansive elaborations of hasheesh. Moreover, when the outer world vanishes and inner reflection remains, a slight persisting responsiveness of the dormant senses offers a sensible starting-point for the seemingly motiveless vagaries. Thus, whether decidedly removed from normal orientation or from correct interpretation of the messages that are brought to the mind, a considerable proportion of the qualities of the actual self endure to shape both the waking thoughts and the sleeping dreams of the altered consciousness. Throughout the modifications the dreamer is thrown back upon his

natural resources, and reacts individually and in conformity with his endowment and experience, to the release of normal relations that the psychic poisons effect. In what measure these diverse yet not unrelated changes are determined by a different mode of entry, a different participation of the subconscious phases of our thinking and dreaming, cannot for the moment be more explicitly set forth than already appears in the descriptive evidence. Its more systematic appraisal and more theoretic interpretation will presently occupy the focus of our attention.

IV

THE DISSOCIATED CONSCIOUSNESS

The spontaneous alterations of consciousness and the direct induction of allied states through a specific disturbance of the brain have yielded their measure of contribution to the natural history of the subconscious. We turn to other and differently significant phases of abnormal mental procedure. The introduction of a more artificial, more intrinsically experimental type of inquiry discloses varieties of divergent psychic experiences that promise further enlightenment of our central problem. Our previous venture has been akin to that of the botanist, who determines how nature modifies the growth of plants under imposed conditions of light and nurture; the pursuit upon which we enter more nearly resembles the express variation of fruit or flower in accordance with an end of our own choosing. We administer a whiff of ether or a dose of opium, and observe how the mind behaves under the specific excitement; we are now to profit by related yet more artificial issues, by setting them to solve queries of our own devising, taking our clue in this pursuit from the contributions of similar

import provided by nature in the vicissitudes of deviation and disorder.

Of conditions conforming to this status the most familiar is somnambulism. As a modification or accident of sleep, it presents an altered disposition of brain-functioning, whereby a part of the mental machinery is set into action without arousing the rest. The mental condition of the somnambulist is an interesting one, and not so much for what it leads him to do, as for his attitude and sensibilities while thus occupied. He is manifestly not wholly awake; his senses respond to a peculiarly circumscribed range of stimuli, and his actions make no report to that phase of consciousness upon which his waking memory depends. Unmistakable circumstantial proof falls short of completely convincing him that it was he who performed in sleep the versatile achievements that the normal memory so completely repudiates, for the very reason that the sleep-acting self is not the self — not the complete self — that conducts the introspective inquiry.

The objective evidence is fortunately quite definite. There is in the older literature the record of a sleep-walker whose inquiring friends tested his powers while engaged in his nocturnal excursions. With a restricted type of awareness, he saw and felt and recognized familiar objects, and behaved toward them in routine, partly intelligent fashion. If a pipe were placed in his hands, the

somnambulist handled it correctly, but could not light it; if it were lighted for him, the pipe went out because he did not inhale properly. He could be induced to sit at a table and to go through the actual movements of writing. If given a book, he turned its pages, resting his gaze on each page, but without reading; and he continued in this automatic mimicry if the light were withdrawn. When forcibly aroused, he was shocked to find himself out of bed and in the presence of his friends. Had he awakened of his own accord, he might, with equal suddenness, have come to himself and without memory of his immediate occupation.

Dr. Hammond found similar opportunity to observe a confirmed somnambulist, — a young woman, — who arose, dressed, walked slowly and deliberately, with eyes open in a fixed stare, found her way from her bedroom to the parlor below, and there scratched a match (which she had brought with her) against the under side of the mantel-shelf, waited until it caught fire, turned on and lighted the gas, and flung herself into a chair, gazing with rapt absorption at a portrait of her mother that hung above the mantel. Her eyes did not wink when threatened, not even when the cornea was touched. When a book was placed between them and the portrait, she took no notice of the obstacle. A burning sulphur match held under her nose aroused no response; and a bit of bread saturated with quinine, that was forced into her mouth (and which presently she chewed and swallowed), failed equally to arouse any reaction. Upon her own initiative she arose and paced the room, sobbing and weeping violently. While thus excited she was led back to her chair, to which

procedure she offered no resistance, and again became composed. Banging two books together, pulling her hair, pinching her face, tickling the sole of her foot, — the last followed by laughter and a withdrawal of the foot, — failed to awaken her. When at length awakened by violent shaking, she was startled to realize her situation, and had no recollection either of her actions or of any dream that may have aroused them.

Observations of this general import have been sufficiently verified to establish that the somnambulist is suggestible; that to some extent an appeal to his senses arouses appropriate response; that he, in part, appreciates the felt and seen positions and nature of things; and that his reactions, though automatic, reflect a simply intelligent yet limited adaptation to routine situations. They show further that spontaneously he takes cognizance only of that particular area of sensations and movements that fits in with his self-imposed quest. The somnambulist, bent upon finding a lost object, avoids obstacles, manipulates latches and locks and keys and doors and drawers, finds the proper material in the kitchen for washing dishes or baking a pie, but is insensitive to the happenings about him, does not hear or see the person who, with lighted candle, is approaching to awaken him, and is likely to stumble against any unfamiliar object, and unintelligently to fumble about the knob of the door that, without his

knowledge, has been locked to prevent his escape. Thus thwarted in his purpose, he may wander back to bed without awakening; yet a sufficiently violent stimulus breaks through the narrow circle of his contracted perceptions, and brings him to normal wakefulness. Many a somnambulist who is aware of his failing, and who has found it unavailing to lock the door and to hide the key (the nocturnal consciousness being quite equal both to securing the key and to opening the door), has resorted to the expedient of dropping the key into a basin of cold water, relying upon the shock, when the sleeper's hands were plunged into the water, to awaken him. This group of possibilities and limitations of mental behavior sufficiently establishes the close affiliation of natural somnambulism to other conditions, and especially to hypnosis, and indicates that what they have distinctively in common is the general type of mental disintegration that permits the spontaneous or suggested episode to be enacted without sanction or knowledge of the normally directing stage-manager.

The relation thus indicated must be modified in one detail: by showing that the memory of the sleep-walking conduct is not completely effaced, but may be awakened by suitable suggestion when the mind again reverts to a similar condition. There may be cited the adventure of a lady who had walked in her sleep upon the roof of a church. Her

husband found that when in a natural sleep, she would, without awakening, answer queries whispered in her ear; and by this means he obtained from the sleeper some account of the nocturnal excursion, including the confession that in her wanderings she had injured her foot by stepping on a nail. Upon awakening she was again questioned in regard to her foot, acknowledged that it pained her, but could not account for the injury. There are also authoritative records in accord with the common belief that somnambulists, who in sleep have hidden objects of value and who were quite unable in their waking condition to find them, have, in a succeeding night-walking, gone directly to the place of concealment. By a distinctive type of registry the night-staff of the brain thus keeps account of its own doings, though without reporting to the consciousness in charge of its daylight operations.

It was these familiar characteristics of natural somnambulism that a century ago suggested the name of "artificial somnambulism" for an analogous condition induced by a trance-like lapse from the normal waking state. This condition and its subordinate varieties we now know under the term hypnotism, or the state of hypnosis. The distinctive phenomena of hypnosis may be assumed to be moderately familiar. They are readily induced in a susceptible subject, and are commonly set forth as the product of suggestion. Unquestionably the increased suggestibility is a fundamental and conspicuous trait of the hyp-

notized subject; and the annals of hypnotism recount the endless variety of simple, unusual, and seemingly impossible performances which this increased power of response imparts to a sensitive nervous system, whose functional relations have been shunted from their accustomed gearings. The "suggestion" theory of hypnotism has done an important service in emphasizing that the clue to the phenomena is to be found in the responsive condition of the subject; but it is equally important not to overlook that this increased suggestibility is itself to be accounted for. It forms but one among several distinctive traits of the hypnotic condition. While it is obvious that the hypnotic subject enters a peculiarly altered mental state upon the occasion of an outward suggestion, it is equally important to note that the central interest is in the comprehension of the abnormal psychological disposition thus induced. We are naturally interested in the range of performances that the responsive subject may be led to exhibit; but we must bear in mind that these reflect only in slight measure the natural issue of his inner impulses, and that it is more enlightening to penetrate beyond the observable reactions to the subjective attitude that renders them possible.

What such an analytic inquiry establishes as a distinctive trait of the hypnotic disposition — and a closely parallel statement holds of natural som-

nambulism — is a disintegration or partitioning of consciousness, and with it a contraction of the mental field. It is manifest that the subject is not fully awake, and clearly not asleep in the ordinary manner; certain divisions of his functional powers may be aroused to a specific manner of response, although this very response is determined by the abeyance of others. Furthermore, the actions thus performed are peculiarly registered; in typical cases they are forgotten or ignored by the normal self, though a succeeding phase of hypnotic consciousness readily recalls its previous conduct. For this restricted and disjointed type of consciousness a special term, that shall be definite without incurring too pronounced an obligation to any theory, is desirable, indeed, indispensable. Let it be called a *dissociated* consciousness, allowing the term *dissociation* to acquire such derivative and expanding meaning as the nature of the phenomena in which it enters consistently demands.

An outline of the typical hypnotic reactions must suffice; the considerable deviations in the kind of altered state that differently constituted nervous systems favor can be but casually considered.[1] Owing to some turn or twist of the

[1] Hypnotic states differ in the degree to which the normal functions are disabled or "side-tracked," as well as to the kind or direction of alteration that ensues. When applied to the lighter

mental machinery, the nervous system of the hypnotized subject responds in a disordered and defective manner to the several ranges of stimuli that normally arouse response. Negatively there is a limitation of awareness and of will; there is a restricted scope of consciousness, a hampered expression of initiative and resistance, — the limitations of the two reducing the subject to the semblance of a remarkably intricate automaton. The actions of this psychological automaton do not report to the normal consciousness; and, as a consequence, in the record of that consciousness the hypnotic behavior finds no place. The limitation of the field of awareness is such that perceptions enter and are responded to upon conditions curiously different from those of the normal state. Yet this distinctive mode of response reflects the individuality of the subject, is dominated by the accumuated powers of assimilation that charac-

stages or the lesser divergences from the normal, the description remains apposite in outline, though it must be toned down in detail. Just how far the proneness to enter this state may be regarded as an abnormal disposition may be left undecided. It is probable, however, that persons presenting certain slight or pronounced mental anomalies may by virtue thereof be disposed to enter the hypnotic state. This is notably true of the perplexing varieties of the hysterical constitution; in these cases it is sometimes difficult to determine what is the expression of the hypnotic and what of the hysterical deviations from normality. These several shades and grades of the hypnotic susceptibility must be properly valued in formulating a suitable conception of its status and significance.

terize his normal personality, and presents indubitable evidence of some subtle participation of his normal consciousness, — all this, however, complexly modified by the acute responsiveness to certain preferred solicitations of word and situation, that constitute his complex suggestibility.

I assume the rôle of the experimenter, and by any of the customary procedures — let it be an intense and strained fixation of the subject's eyes, or a passive emptying of his mind, as he yields himself to my control — I facilitate in the favorable subject the altered mental attitude to which his participation brings the critical transformation. If left alone, there may be mere vacancy, passivity, sleep, with a confused or sharp relapse to wakefulness. If I at once occupy the altered consciousness by direct and forcible suggestion, I find that the ideas implanted by me — like the self-imposed charge of the sleep-walker — take stronger hold upon the motor channels of his nervous system and upon his thought-progression than do his dormant self-assertiveness and individual initiative, or even the natural automatic control of muscles and senses. It is as though his servants were by some sympathetic insight made to recognize the momentary incapacity of their master and to obey the command of a temporary authority, yet with some reservation, with an undercurrent of concern for the interests of their true lord. My fiat overrides any lingering resistance of his to the foreign invasion, and utilizes his accumulated resources to carry out my caprice; and presently there is more and more complete

surrender, and I play upon his stops as upon a pipe. I clinch his hands about my cane and insist that he cannot release his hold; I seat him upon a chair and command that he cannot arise; and every impulse of his struggles is at once shorn of its purpose by the counter-command of my imposed suggestion. I place a great ball of lead in his hand and assure him that it is hollow and of paper, and he lifts it as though it were a trifle. I give him a poker and a footstool, and say, "Here is a brush and a comb," and he performs his toilet with my preposterous substitutes. I take him upon a walk through field and forest — all in the confines of my study — and show him the stream — the hearth rug — across which he is to jump, while I applaud his efforts from the opposite bank. He shivers when my word lowers the temperature of his fictitious world, and swelters a moment later when my weather predictions announce a hot wave. He hears church-bells in the clinking of my bunch of keys, sees whatever I choose to describe, and ignores with eye and hand what I declare non-existent. Clay in the potter's hand is his exalted suggestibility in the service of my ingenuity.

It is well, however, for the potter not to toy with his material, but to shape it to useful forms. The hypnotized mind may be enticed to exhibit quite a range of initiative, and to show therein the allegiance to the normal personality. I need only leave a certain indefiniteness in my suggestions, — to set the theme, but commit the rendition to the skill of the performer. I suggest that there is music and that he is at church; he reports that he hears the peals of the organ or the refrain of

a hymn, possibly identifying the words and tune. Upon another occasion, I again arouse the strains of music, but place them on the stage of a vaudeville performance; and the subject enjoys the gayety of "rag-time," or of a topical song. He carries out the situation, just as my dreaming self sets upon the mental theatre its own dramatization of the meagre plot furnished by a sensory hint from without or by a chance play of imagery from within. Possibly, renewed suggestion will be needed to stimulate the handicapped mind to maintain its constructive energies. The hypnotized brain may carry out the suggestion in its curtest form, relapsing into dull automatism when once the irritation is spent, — an issue suggestive of the behavior of a pigeon deprived of its brain-hemispheres by the inquiring physiologist. Between these opposing tendencies the ever-present individual variation determines the manner of response to the impulses that by external suggestion have found lodgment in the unresisting brain. In favorable subjects, the suggested activity may be pursued spontaneously to an indefinite extent; the hypnotized political orator takes the stump and harangues the imaginary crowd for period after period, assuming the manner, diction, and arguments suitable to the proletariat; the hypnotic actor, furnished with the mere skeleton of a situation, throws himself into the part with an abandon and realism equally surprising and amusing to his friends.

Yet all this is equally as important upon the side of its limitations as of its success. The hypnotic

accomplishment clearly excels in some respects that of the normal powers; but it is the exhibition of these same powers peculiarly exalted, set free by the banishment of restraining standards of thought and conduct. Give the hypnotic subject a task congenial to his talents, possibly one appealing to a private, even an unsuspected passion suppressed in his work-a-day activity, and you marvel at the inspiration; engage his energies in a direction foreign to his interests and experience, and you find the result dull and banal. Present half a dozen subjects with a cigar in the form of a lead-pencil, and with a toothpick as a match, and you may shrewdly guess from their enacting of the part which are the smokers and which not; though you may be deceived by the skill of the mimicry that assimilates by observation alone the minute realism of such a piece of "stage business." Throughout, the series remains consistent with the full range — not merely the consciously acknowledged range — of the individual's capacities. Hypnotism begets no Minerva-born creations; it acts as does the allied alcoholic stimulant, of which Schiller observed, "*Der Wein erfindet nichts, er schwätzt nur aus.*"

Receptivity to an imposed suggestion, a markedly lowered resistance and independence, an equally marked contraction of the field of assimilation, a release from the restraining influences of

fear, hesitation, and the ideals of reason and propriety, an automatic tendency to continue with an occupation until the energy is spent or diverted to another channel, and yet withal a variable initiative, a personal moulding of the set theme, — these are the more general traits of the hypnotic consciousness. They will presently be supplemented by more specific embodiments of these relations, that are equally significant, equally difficult to disentangle from the confusing mass of discerning and undiscerning observations.

In conformity to the mode of approach that was found profitable in preceding analyses, the hypnotic consciousness may be examined in terms of its limitations of awareness and of will. What kinds of perception, what manner of thought-elaboration, what avenues of expression, does the hypnotic consciousness command? To begin with, the consciousness is contracted, narrowed in scope, and, it may be, lowered in energy; moreover, it is systematically limited, with a method in its seeming caprice. As in normal assimilation under guiding interests, it sends forth its apperceptive tentacles, gathering only what is germane to the suggested quest; but its appetite is peculiarly selective. It presents the paradox of perforce recognizing that which it ignores, of determining what shall enter consciousness by being blind to what it excludes, while yet it takes note of the very "ear-marks"

that arouse its rejection. Yet this is a bit of mental jugglery of which the normal consciousness, with a slight concession to the polite fictions of the social exigencies, is equally capable. When Madame is not at home to any but a few privileged callers, she is sufficiently at home to the others to recognize at all events that they are not the ones to whom she is at home; and when Madame "cuts" her rival or a too presuming acquaintance, she is most particularly aware of the detailed appearance of the snubbed individual, whom she does not see. Doubtless in the privacy of the boudoir, Madame describes to her confidante the precise variety of discomfiture which the object of her social displeasure suffered at her hands, and herself realizes how keenly her consciousness was affected by the unwelcome presence. Yet in pressing the analogy, it is proper to admit at once that the manner of intercourse between the private, examining, and confessing self and the dress-parade, social self is more intimate, and is differently conducted, than that which obtains between the normal and the hypnotized personalities.

To illustrate: I suggest to my subject that he cannot see the letter *a*. He reads aloud or copies from a text, or writes me a note, and consistently omits all the *a's*, and necessarily recognizes them in order to omit them. In spite of firm denial on his part that there is no *a* present, I have

indisputable evidence that in some sense he sees and knows (though not precisely as I see and know it, because his apperceptive mechanism is not acting normally, as mine is) that the *a's* are all present in their proper places. His being not at home to the *a's* no more convinces me that he is wholly unaware of their solicitations to his notice, than the maid's announcement convinces the denied visitor of Madame's virtual and bodily absence from the house. Social convention tolerates the one fiction as readily as the deranged hypnotic organism tolerates the other. Let us complicate the situation just a little. Another subject is told that my friend, of whose presence she had been duly made aware, will disappear as soon as I clap my hands. The *escamotage* is successful. My friend may shout in her ear, block her path as she walks, pinch her arms, all without effect; he and his actions do not exist for her consciousness. My friend offers her a rose or places his hat upon his head and walks about the room. When her attention is called to these objects, she remarks upon the rose mysteriously appearing in space, and upon the hat promenading without visible support. I announce the approaching revisibility of my friend, and when I again clap my hands the hat and rose are seen in their true relations.

It thus appears that not merely the existence of a gap, but of what is needed to fill it, is present in some sense, though clearly not in the usual sense, to the hypnotized consciousness. Suppose that instead of rendering the subject mentally

blind to a given object, I suggest a fictitious addition to his experience, or an arbitrary transformation of a real object into a wholly different one. I impress upon him that a blank card is really a photograph of President Roosevelt, that a lion has entered the room, and — to repeat former suggestions — that he hears music amid actual silence, or that what his eyes would readily recognize as a poker and a footstool, were his senses properly serving him, are to be accepted as a brush and comb. Are the imaginary sounds and sights truly hallucinated, and only the suggested, not the real objects seen and felt? Assuredly not; there is just the same subtle paradox as before. Some portion of the mental organism recognizes the unreality, the peculiar subjective tissue of the lion and the photograph, and takes cognizance of the things that are not what they seem; yet it does this so feebly, so suppressedly, that the momentarily dominant hypnotic consciousness receives no report thereof, but is emphatically convinced of the reality of the lion and the "brushness" of the footstool. Of this state of affairs there are various though reluctant witnesses, whom we may summon by such psychological writs as we can enforce.

To appreciate the bearing of this evidence, we must widen our survey of hypnotic phenomena, and include particularly the valuable contributions of the post-hypnotic suggestion, — a term

that indicates the execution, in the waking condition, of the suggestion that was implanted while in hypnosis. This transfers the entire situation to a more nearly normal status; and such post-hypnotic suggestions may equally influence sensation, motion, and the associative elaboration. Before awakening my subject I suggest that, on coming to himself, or thereafter when I cough three times, he will fetch a vase from the mantel and set it upon the table; or that he will light a lamp, though it is broad daylight; or raise an umbrella indoors; and these several actions will be accompanied with varying degrees of resistance or hesitation. I can equally substitute in this post-hypnotic relapse a fictitious for a real sensation, or for the moment destroy sections of normal awareness, and induce him to speak or act with so much of reason or the lack of it as I introduce into the imposed task.

The post-hypnotic reaction points more definitely to the status of the hypnotic limitation of awareness, and assimilates it to the standard types of restricted consciousness. Some observers regard it as justifiable to assume that during the carrying out of the suggestion the subject relapses into the hypnotic state; others point out that there is at that moment a real awareness of the imposed procedure, — an awareness the more decided as the act is carried out with greater hesitation, — that

the subject assimilates it as best he can, as a sort of forced intrusion into the normal sequence of thought. If we ask him why he did so purposeless an act as to open an umbrella indoors, we rarely get any more satisfactory answer than that it was necessary to his peace of mind to do this thing. He may be ignorant of the fact that the source of this impulse came from without; though subjects frequently exposed to this type of suggestion come to recognize the hypnotic origin of impulses that possess such peculiar urgency. When suggestions are carried out after long intervals of weeks and months, and involve the subconscious retention of some organic tally of the passing days, they contribute still more striking evidence of the hold which this charge upon the subconscious registration may secure. As illustrations of the scope and intricacy of subconscious action, all these experiences are of interest. What they more distinctively contribute to the varieties of conscious states is that these post-hypnotic actions leave some trace in the waking memory, while if performed during hypnosis, they would be wholly ignored by the normal consciousness. And again: that actions thus performed — possibly with some hesitation and self-persuasion — are regarded as the subject's own conduct, as expressive of his own will, may indeed be explained and excused as the outcome of deliberate reflection.

The conclusion favored by these relations seems to be that actions consciously performed will be regarded as voluntary and spontaneous so long as there is no awareness of the imposed motive. The awareness that enters into the completely and normally voluntary action combines two procedures: the one of the actual performance, and the other of the deliberations, impulses, and intentions that precede it. The action performed under an imposed suggestion during complete hypnosis cannot acquire either of these requisites, because the waking, introspectively alert consciousness is so nearly unaware of the action in any sense. But the post-hypnotic action ignores or mistakes only the latter, the antecedent initiative, and by its concomitant awareness of the action as performed, saves the personal flavor of the whole. Thus the subject whom I hypnotize while he is seated on a chair, and who then performs at my bidding all sorts of acrobatic feats, but is again seated and awakened, will maintain that he never left the chair; but in the post-hypnotic state the subject is aware that he has raised the umbrella, and, as noted, may try to invent some plausible excuse for his folly.[1]

[1] This is not always, but it is frequently the case; also is it possible by suggestion to bring about almost any desired relation of remembering and forgetting while awake of what was done in the hypnotic condition. In such instances, it is plausible to sup-

An interpretation of this complex status must not be hastily reached. It clearly represents a peculiar type of intercourse between the waking, normal, fully alert consciousness and the contracted, abnormal, selectively functioning consciousness. Both types are for the post-hypnotic moment acting jointly; both utilize the same sense-organs, the same muscles, the same endowment and experience; and yet each apparently ignores the presence of the other; so that one seems driven to the hypothesis of a divided self, — of some alternating, though in part cohabiting, tenancy by two systems of memories, of the expression of two different wills. The critical examination of this easy supposition will occupy us in detail in later analyses. For the present it is well not to exceed the warrant of the data, and to note the varying relations of memory-awareness and the sense of initiative that accompanies the performances of hypnotized subjects both in hypnosis and post-hypnotically.

The first step in the comprehension of this puzzling relation is to observe that what the waking self ignores again enters the field of awareness when the subject is once more hypnotized, pos-

pose that the ensuing condition may be an intermediate one, offering possibilities of intercourse both with the normally alert and with the hypnotized consciousness. Such a transitional state — which may be the state of the post-hypnotic action — is sometimes described as a hypnoid condition.

sibly even after a long interval. The induction of the same state brings with it a command of the experiences and memories of previous similar states. Spontaneous analogies thereto we have found in natural somnambulism, in which the whereabouts of an object hidden during sleep is lost to the waking self, but is directly accessible during a following attack of somnambulism. Just so the hypnotized subject, who assures me while awake that he had never left his chair, reports to me when I again hypnotize him the entire series of suggestions to which I subjected his helpless will; and yet this is but one, though the readiest, way of exacting confession from the suppressed consciousness. I may suggest that what the alert consciousness ordinarily ignores will upon a second awakening be recalled; and I can elicit convincing evidence that the apparently lost impressions have actually been registered in the nervous system. The difficulty is merely to devise the proper formulæ to render visible the record thus written in characters that escape attention.

Naturally, the proofs from spontaneous arrangements are more convincing than those in which direct suggestion has entered. I recall an hypnotic experiment in which a boy twelve years old was induced, while hypnotized, to make a drawing. No theme was given, and the result elicited after some persuasion was a childish sketch of a house,

with windows and a chimney emitting smoke, a fence and a gate, and some conventionalized trees. The boy was awakened, and, as usual, knew nothing of what had occurred. After repeated coaxing, he was again induced in his normal state to draw something; and there emerged a fairly close replica of the former sketch. When the two drawings were shown to the young artist, he was decidedly alarmed by their similarity, and could not in the least account for his hypnotic effort. Hypnotized subjects who have been persuaded to write, and possibly to record personal data known to no one else, when restored to their normal condition recognize the handwriting as their own and the private facts as their own intimate confessions, but completely deny any recollection of the occasion of writing the document, and are amazed to find thus recorded what they would not willingly have disclosed. Clearly the hypnotized self draws upon the possessions of the normal self, and conversely, the experiences of the hypnotized self are assimilated with some dependence upon the normal relations. That the nervous system registers similarly in the two cases is evidenced by experiments in which the subject is given bitter substances to taste with the suggestion that they are sweet, and while declaring them wholly palatable, actually makes grimaces that belie the completeness of his delusions. A still more delicate experiment shows the tracings of the organic effect of such pleasure-and-pain sensations upon the pulse and respiration. These indicate at the moment of the sensation the same type of physiological change as occurs when the subject normally is aware that the quinine is bit-

ter and the vanilla is pleasant. Similarly, if the retina of the hypnotized subject be exposed to the vision of a bright red cross with the suggestion that no such cross exists, he will deny all evidence of its being there, but will describe the dull green after-image — the same as would appear in the normal eye that recognizes the red cross — that is projected from the excited area of his retina. Such registrations, normally taking effect with definite report to consciousness, may thus take place and yet be paradoxically excluded from their natural tendency and privilege.

In such fashion do the normal senses declare the shield to be golden, while the hypnotic consciousness, using the same eyes, is equally convinced that it is of silver; and the solution lies in this instance neither in the composition of the shield, nor yet in the caprice of the organs of vision. The source of the paradox lies more remote, requires the disentanglement of a more complex situation to lay bare its secret. A contention between the two knights, even in so objective an issue, was a ready possibility for the sufficient reason that they were two, with two pairs of eyes serving as many minds. But whence this lack of harmony when but one individual is concerned? Two souls may chance to be occupied with but a single thought, but how can one soul have a double thought? As is the case with many another enigma of science, the value of the reply

that we elicit will depend upon the fitness of our queries. At present it is but one phase of the paradox that we need resolve, and that only to such extent as to render intelligible and profitable our further inquiries. The functional dissolution that attends the hypnotic and allied mental alterations brings it about that the occupations of each estate are disqualified from representation in the forum of the other, and yet that their common dependence upon a joint nervous and mental organism requires an efficient, however submerged or disallowed, participation of each in the other's operations. While the ability to revive the memories of former hypnotic doings in a succeeding hypnosis does not explain why such transactions remain unknown to the intervening normal self, it does indicate that they achieve some sort of registry, recoverable by an appeal to that phase of consciousness that was responsive to the original experience. How this kind of a divided consciousness is most properly to be conceived, most fitly to be described, is, in the main, the part of the problem that is being deferred to a later juncture. Yet the partial disclosure of these significant relations incurs the obligation of seeking evidence of their existence not only in recurrent hypnotic states, when the normal consciousness is in abeyance, but also concomitantly, when that phase of our mental nature is at work.

The method by which this can be accomplished may be called that of indirect suggestion, of insinuation, or of "forcing." Its dealings are with the waking consciousness; but it takes that consciousness at a disadvantage; and it depends for its success almost entirely upon the susceptibility of the subject to such mental persuasion. A few instances will profit more than further analysis. I set the hypnotized subject a simple problem: to add together 5, 6, 8, and 9. I then awaken him, and engage his interest in a game in which he is to think of a number and I am to try to guess it. I at once guess "28;" and he is astonished at my astute mind-reading. I have simply left the number "28" invitingly accessible to some phase of his consciousness; and when the apparently free choice of a number is to be made, the association takes the path that still shows the footprints of the suggested impression. The procedure is in a measure a forced association. I take the hypnotized subject upon an imaginary pleasuring; I tell him he is listening to the Toreador's song in "Carmen," which he follows mentally with evident gusto, keeping time to the suggested measure with characteristic movements of the head. I place the scene of the music in a concert garden; I invite him to supper; and I tell him an anecdote that amuses him. He is awakened, and knows as little as usual of the nature of my suggestions; song, supper, and story are all gone. Presently, by arrangement, the "Carmen" aria is played on a piano in an adjoining room; and I ask him what it brings up in his mind. He begins to cite fragments of our imaginary excursion, — possibly the scene of the

garden, possibly the supper, possibly the story, — though crediting the whole to his own imaginative constructions. Though not payable on demand, the deposits are none the less made in the mental bank, and may be drawn upon through diplomatic negotiations.

This represents one procedure, and the simpler, by which the method reveals the unrecognized presence of what, though disqualified, yet participates in the mental play. Its limitation lies in the fact that I must furnish each situation with a plausible setting, so that the issue appears as the natural sequence of the ordinary type of self-determined motives, while yet my suggestion, made behind the scenes, furnishes the actual plot to the seeming improvisation. In the affairs of the practical life, moral suasion not infrequently succeeds by a like artful finesse; we induce others to accord with our measures by seemingly letting their actions stand as the issues of their own decisions. If we are not tactful, we arouse opposition; our plot is suspected, and an alert resistance is aroused. A direct mode of effecting the release of the confined impressions requires that the insinuated suggestions shall find an outlet that is not the chartered highway of conscious concern; what is wanted is a procedure that does not require one to move on tiptoe in fear of arousing suspicion, possibly some "back-door"

access that may be made available to the purpose in hand.

Again, without explaining how or why such a mode of approach is accessible, let us note its actual occasional presence and the manner of communication which it permits with the apartments that open upon the highways of mental traffic. What is known as "automatic writing" is a procedure in which the sense of initiative is lacking, in which the mind is but feebly aware of its own preparations, in which what is revealed reflects sources of information seemingly removed from deliberate purpose; and by these tokens is it felt and judged to be different from the reflective, voluntary expression that writing normally connotes. It occurs spontaneously in "nervous" subjects, particularly of the hysterical temperament, and indicates some liability to dissociation. If my subject can command this mode of expression, I proceed as follows: while hypnotized I read some verses to him, but give no suggestion in regard to them. Upon awakening him, I ask him to hold a pencil to paper, and at the same time I engage his attention as well as I can in a congenial task; I suggest that if the pencil seems animated to write, he let it do so. I remind him that while he was hypnotized a moment ago, I was reading to him some verses, which he by his own confession has forgotten. Yet I leave the impression by my talk that I am very much interested in knowing how completely the memory-traces have vanished; possibly he can recall how many words there were in the first line or in the first stanza. Yet I continue with my diversion (let it

be reading to him, or having him read an interesting tale), and presently there is a twitching of the hand, and a more and more definite excursion, until, if the experiment is successful, the number is correctly recorded. Or I ask the subject, as before, to add together 5, 6, 8, and 9, and place a pencil in his hand; then I suddenly awaken him as he begins with 5; and though he may be momentarily bewildered, the automatic pencil records 28. Or possibly it may prove that whatever I boldly ask of him, he answers with full awareness by word of mouth, while my whispered queries are responded to by the dissociated hand. In all this type of procedure a decided measure of mental dissociation is present; there is here an "automatic" and a voluntary channel of utterance; and there is revealed the presence, thus dissociated from the normal avenues of knowledge, of what the conscious memory cannot reach.

Further instances would add little to the psychological status thus indicated: first, that typically the awakened consciousness after moderately profound hypnosis recalls nothing of the thought or conduct while hypnotized; second, that a registry thereof is none the less made and in terms generically the same as those of normal memory-images, both in their direct sensory appeal and in their quality as material to enter into experience; third, that in a reëntry into a second hypnotic phase, the subject, upon direct inquiry, reveals a knowledge of the data denied to the waking con-

sciousness; fourth, that evidence of these memories can be obtained in the waking state by indirect means; *e. g.* by inducing distraction and securing a record in terms of automatic writing, by creating a situation in which the subject is asked to respond as if by his own initiative, but is "forced" into selecting the reply favored by the submerged impression, and by other psychological stratagems. Consistently, then, do these several phenomena obtainable during and after hypnosis of normal subjects, indicate a dissociation of consciousness in terms of assimilation, of memory, and of expression. Impressions achieve registry in one area, division, phase, or mode of functioning of consciousness, but are at the same time ignored by the normally dominant information-bureau; memories are lost, but yet by indirect means are lured from their retreat; the tongue denies what the hand simultaneously affirms, or in the very manner of indicating "no" implies a "yes." Such is the central, though not the sole contribution that an analysis of hypnosis brings to the study of the subconscious phases of abnormal mental procedure.

It is by no means a simple problem to determine what constitutes the susceptibility to assume the hypnotic state; yet we are within the warrant of our evidence in interpreting such predisposition to consist intrinsically in a more than normal

tendency to present spontaneously, or to yield to under suggestion, or to acquire by training, some measure of dissociated consciousness. The complex of mental traits that favors such disposition exhibits variety in its membership, and *in toto* presents a considerable range from an easily overcome antagonism to high susceptibility, to exaggerated proclivity.

Let us linger at a few distinctive stages of this gradation. If I tell any one of my friends that he cannot clinch his hand, he promptly makes a fist and affords unmistakable evidence that the hand is his to command, and that any movement thereof in deference to my request is mere complacency on his part. Very well: I admit the well-knit unity and normal adequacy of his control upon every ordinary occasion. It is his boat, and his hand is on the tiller; but I ask him to be as complacent as possible, to forget about the boat as far as he can, and let me take the tiller while he keeps his hand upon it. Literally, then, we sit down at a table under familiar reposeful surroundings, and he lends me his hand. I must furnish the hand as slight occasion as possible to convey sensations of what is happening to it to the central consciousness; so I place it in an easy position on some support that will relieve it in great measure of the feelings that its maintenance or movement induces; and I suspend the support delicately so that it can yield to motion under slight impulses with a minimum tendency to have the excursions sensed either definitely as to their nature, or at all. In all these manipulations my friend is

much interested; and when I tell him to dismiss from his consciousness the hand that is now comfortably provided for, to forget that he has it, he receives my request with an imperfectly suppressed doubt as to whether he is the more foolish to try to do so, or I to ask it. He becomes more keenly aware than ever that he is the rightful owner of that member — indeed, that he has or even *is* little more than arm and hand. Necessarily, I must give his mind some absorbing occupation in order to get that hand out of its concern. I set him to read a story; and if he really settles down into a comfortable attitude, and the story takes hold of him, I presently begin to move the apparatus that carries his hand — which we may call an automatograph — and find I can do so without arousing the reader's normal desire to become aware of that movement and to take charge of it. It is rudimentarily and provisionally dissociated. Possibly he does not know when it moves, or that it moves, or what kind of movements it makes; or if he is aware of it, his awareness takes an unconcerned, extra-personal flavor; it is not his business.[1]

[1] An analogous situation arises at sea, when, reposing in my berth at night, I assume an anxiously attentive attitude towards the vertical, horizontal, and torsional excursions of my body, induced by the heavy roll. So long as I follow these movements, even with closed eyes, anticipating the next lunge or dive, I get no sleep; but if I can persuade myself that these gyrations are perfectly normal body-experiences, for which I have no responsibility whatever, — if I can realize intimately, not with lip-consent, that the whole conduct of the ship is the captain's business, not mine, — I gradually adapt myself to the situation; I relinquish attention to the performance, and I fall asleep.

How much farther one may go depends entirely upon the "dissociability" of the subject. Possibly I can do no more than convert this insensibility into a slight suggestibility; I give the apparatus a definite type of movement, — a series of advancing circles, or *m*-like movements, or the figure 8; and as I remove my guiding finger, the hand, unbeknown to its owner, continues my suggested movement. Yet the equilibrium of the situation is most readily upset; and any over-zealous direction on my part restores the arm, with its feelings and movements, to its owner's consciousness. Suppose I find a subject in whom the surrender of the hand proceeds easily and completely, whose hand breaks into significant movements on its own account; I may then replace the automatograph with the more versatile pencil, and I may further engage the pencil in routine activity, say in making curlicues, or in scribbling with a sort of continuous movement, or in writing from dictation mechanically, with suppressed comprehension of what is written. Still engaging his mind centrally and intently in his reading, I find that his hand acquires the power to keep on writing while he maintains a fully absorbed reading; and if I cease my dictation, I may find that the hand retains a modest power to express some words, isolated or in simple construction, rational or nonsensical, through the direction of the dissociated consciousness. The reading self may become aware (not, however, by the feeling of initiative, but by the return sensations that the hand telegraphs back to the absorbed self) that his pencil has been making writing-strokes; but he does not know what words these strokes have composed.

It is non-personal, automatic writing through a dissociated arm, — all of a simple, readily disturbed, rudimentary character; yet it carries with it the demonstration in normal life of what when abnormal is the same phenomenon developed and exaggerated.[1]

All that this series of experimental ventures is meant to imply is the possibility of mild dissociation in the normal consciousness; but likewise that under ordinary circumstances such dissociated consciousness would find slight possibility of expression. This relation requires exposition as well for its own sake as for the illumination it affords of the more developed types of dissociation. It will be recalled that our nervous arrangements provide for but one avenue of expression, — the diversified muscular system, composed significantly of voluntary and semi-voluntary and involuntary muscles. The specific status of a contraction is determined by the measure of direction and consciousness that accompanies it. Now the entire range of conscious, voluntary conduct has already taken possession of all the available muscular system that could profitably serve its ends. Suppose, first, that subconsciously assimilated habits, or modes of reaction, or appreciations of a situation, or even, if you like, subvoluntary desires or sup-

[1] In this exposition I have followed in the main the procedures set forth with great discernment and ingenuity by Solomon and Stein. *Psychological Review*, vol. xi, p. 492, 1896.

pressed longings, seek expression; clearly they have no (or slight) means of finding it except through these same preëmpted channels. Hence normally, so far as they exist, they do not reach expression; yet this is not wholly the case. They do not reach independent or rival or usurping expression; but they may modify by their presence actions that, in the main, are conscious voluntary actions. They emphasize or check, corroborate or belie, disclose sincerity or hypocrisy, confidence or temerity, bravado or brutality, and they do so largely by giving a touch to the final execution that we cannot by intent perfectly mimic; by setting into action intricately combined tensions of muscle and gland and circulation, by modifying mechanisms that are not reserved for deliberate conscious response. But secondly, this too is not quite accurate, because the dissociated type of consciousness is something different from the subconscious accompaniment or modification of conscious action; yet it has affiliations with it. For dissociative action, this same muscular expressive system must be taken away from the voluntary, conscious direction and placed at the disposal of the suppressed subconscious. There seem to be just two functional methods of accomplishing this: the one is to eject, or drug, or incapacitate the normal tenant; and the other is to wrench away a part of the muscular apparatus for the

desired purpose, while leaving him the rest. It is just these two varieties of dissociated consciousness that we encounter or are able to arrange, and each in turn with sub-varieties; and not unnaturally, both types may be found in the same individual. In hypnotism we observe the alternating dissociation, in which the tenant is ejected, and his habitat and possessions placed at the disposal of the temporary usurper, who, indeed, commands functions removed from ordinary control; in concomitant dissociation we secure expression of subconscious experience through some segregated medium of record that through distraction has been wrested from the totality of the motor equipment, that simultaneously serves the normal consciousness; while in the variety of hysterical phenomena and of spontaneous alternating and coexisting personalities, there appear again the same two varieties and their commingling. It is in the exaggerated and systematized dissociability of hysteria that the allotment of function thus deduced is most typically and most variously presented.

The importance of hysteria for the study of subconscious phenomena lies, accordingly, in the varied and systematic types of dissociated consciousness that it is prone to develop. The presentation of our central argument will not provide a general account of hysteria as a malady and of its

protean symptoms; yet a brief statement of the modern conception of the disorder must be attempted. Hysteria as a nervous and mental disarrangement is but the aggravation of a tendency or diathesis, along with variable complications that its development is liable to accumulate. Its eminently plastic, complex, and subtle symptoms are the outcome of a psychic flaw or taint, an abnormal quality of certain delicate yet fundamental dispositions of mind; and these in turn are conceived as the expression of an obscure functional failing of the most highly organized centres of the brain. Exaggerated impressionability and a pronounced instability of character are its more general traits. Certain realms of experience are reacted to with peculiar emphasis, arouse vivid emotions, while such affective permeability remains compatible with an apathetic and disinterested attitude towards other normally attractive appeals. Eyperiences are assimilated under an intensely personal perspective, dominated according to temperament by a morbid susceptibility to take offense, an explosive irritability, a brooding over trifling or imaginary peccadillos, a fictitious embellishment of commonplace incidents, a passionate indulgence in extravagant day-dreams, or a capricious fluctuation from one to another of these moods. This emotional mobility induces sudden and contrasted mutations of feel-

ing and impulse, again predominantly in response to self-centred or ill-balanced motives. Upon the assimilative side, such a disposition brings about a narrowing of interests, an inability to take comprehensive and objective views of situations; in brief, a contraction of the span of mental concerns and a like inefficiency in the control of the attentive habits, — both an issue of the dominant and confining self-absorption. Upon the reactive side, the hysterical weakness takes the form of an impaired coördination, an impulsiveness and caprice, — an enthusiastic exertion for short efforts, followed by quick weariness, lassitude, and exhaustion. The hysterical temperament thus exhibits its infirmity as a crippling of the functional operations of consciousness and will, as a peculiarly circumscribed, impeded, and defective assimilation, and as a mental inhibition, an unstable control of expression and conduct, — both conditioned by a disordered type of intercourse between the conscious and subconscious aspects of the mental procedures.

The manifold psychological abnormalities comprised in this description are as significant as the distinctive hysterical types that different temperaments, different inheritance and accidents combine to develop. From the casual lapse into an hysterical outbreak — to which upon occasions of severe stress or excitement the majority of man-

kind are subject — to those in whom hysterical symptoms are frequent and unmistakable, but usually resisted and in large measure suppressed; to the next more decidedly deviating group, who are likely to be regarded as peculiar, possibly difficult in intercourse, extreme in conduct, high-strung, and unconventional, with certain special idiosyncrasies that bring them near to the frontier of pronounced abnormality; to, finally, the true hysterical patient, who falls within the pale of the medical specialist, and whose vagaries and vicissitudes contribute to the varieties of mental derangement, — in this gradation between widely separated extremes, distinctions of degree become as significant as distinctions of kind. The distinctive symptoms of hysteria — the so-called stigmata of the disorder — are found commonly in the more pronounced "cases," while minor varieties, in which hysterical tendencies are but foibles of character writ large, are wholly compatible with the occupation of a useful place in the world. Indeed, those thus handicapped may exhibit no greater and no more incapacitating departures from normality than the complexity of human life and character naturally entails. In the interpretation of hysterical types and symptoms, careful allowance must be made for the effect upon thought and conduct of personal antecedents, — of culture, station, habit of life, race, nationality,

and experience, — an allowance that requires the nicest appraisal of traits on the part of the psychologist, the physician, and the man of affairs. The special groups of symptoms that contribute most directly to the abnormal psychology of the subconscious occur commonly in the more developed hysterias; yet throughout the series, the liability to dissociation of consciousness is a direct and consistent consequence of the intrinsic disarrangement for which the term hysteria primarily stands, and may, like other hysterical symptoms, be quite pronounced in the comparative absence or weakness of other groups of distinctive hysterical indices. And finally, hysteria, though common in men, finds its more frequent and characteristic expression in women, and is, above all, distinctive of the period of emotional dominance, — of early and late youth. It is in the soil thus prepared that alterations of consciousness find inviting conditions to germinate and flourish.

The aspect of the developed hysterical abnormality that engages our interest is the disturbance that it frequently presents in the participation of the conscious and subconscious factors of the mental life: a perversion or alteration of the mode of entry, the manner of registry, the appeal to the personal assimilation, the altered metabolism of the mind, by which the food meets with a modified, seemingly capriciously transformed appetite,

is differently digested, develops a morbid type of tissue, presents curiously disturbed, curiously selective affinities and limitations. Most representative of this process is the hysterical variety of that ignoring of the actual, normally successful solicitors to conscious notice, that is naturally classified as an anæsthesia, — yet an insensibility not of the sense-organ or of its nervous substrata, but of a partially maimed, seemingly vetoing consciousness.

A normal experience in the form of a persistent absent-mindedness may prove a profitable approach to the comprehension of such mental anæsthesias. A business man living in the suburbs, as he entered the train upon his homeward journey, reflected upon the threatening aspect of the sky, and considered the chances of finding his carriage awaiting him at the station, in case the impending rain came on. His hopes were doomed to disappointment; and he resigned himself to a wet walk home. As the downpour became heavier, he more keenly regretted his wavering hesitation in the morning in regard to taking an umbrella. When at length he presented himself dripping at his door, he was greeted with shouts of derision at his plight; for tucked under his arm was the umbrella, unopened, unperceived. So convinced had he been that he had neglected to provide himself with this protection, that the repeated solicitations to his senses offered by the presence of that object passed unheeded. Doubtless, in the course of his walk, the umbrella had fallen within the range of his vision; and certainly his arm had sufficiently attended to the feelings resulting from

the carrying of the article to prevent its being dropped. To these appeals to see and feel and recognize did his mental prepossession render him blind and insensible. Had any passer-by broken through his "absent" spell and pointed out his neglected opportunities, he would at once, and with some surprise and amusement, have seen and felt and consciously used what in his reflections he repeatedly longed for: in this last consideration lies the normality of the experience.

A comparable type of anæsthesia is readily induced by suggestion in the hypnotized subject. We place the umbrella under his arm and insist that no such object exists. The same persistent oblivion ensues; but there is added one significant difference: all ordinary attempts to call his attention to the umbrella by displaying it before his eyes or showing him it under his arm fail, so long as his mind is subject to the hypnotic prohibition. Yet some suppressed phase of his consciousness utilizes the sensations that lead to the proper support of the umbrella. This not-at-homeness to a sensory appeal, that is none the less subconsciously received, is present, yet differently present, in the hysterical anæsthesia. The hysterical patient may come to discover that she does not see or hear or feel this or that object or person, in spite of other successful appeals to eye or ear or hand; and again no demonstration, however obvious, relieves this mental incapacity. Yet the condition has a greater permanence, enters more complexly into the spontaneous occupations, and persists from day to day so long as this special phase of her hysterical impairment continues; the anæsthesia is systematized. More-

over, this type of objectively directed anæsthesia that ignores a single object or group of objects is not the usual one. Such failure to become aware of patches of experience is typically connected with a perceptive organ; there may be hysterical blindness in one eye or lack of feeling in one hand. In that event, whatever is presented to the blind eye and to the unfeeling hand does not exist to the hysterical consciousness. Close the seeing eye, and the patient declares herself to be in darkness. Bring a lighted candle before the mentally blind eye, and she declares there is no object there. Manipulate the unfeeling hand as you will; prick it, or burn it, or place the fingers in painful attitudes, and there is no protest. Yet, as before, it is possible to demonstrate that some part of the nervous system registers what the blind eye sees, and notes the pain that the unfeeling hand repudiates. The disorder is a mental one, a psychological exclusion of adequate stimuli from adequate consciousness. Such mental prohibitions or obstacles we are acquainted with in the field of prejudice and prepossession; a recognition thereof is embodied in the familiar saying that there are none so blind as those that will not see. To be adapted to the hysterical experience, the maxim should read: There are none so blind as those who cannot *will* to see.

The nature of the evidence that what is thus excluded from consciousness achieves subconscious registry is of the type with which we have become familiar. Any procedure that dismisses, overrules, circumvents, or lulls the hysterical consciousness may succeed in restoring the banished member to normal awareness. In one patient, a

pinch during sleep upon the anæsthetic side provoked groans and the words: "You pinch me;" in another, a dose of morphine recovered the lapsed feeling; while in a third, alcoholic intoxication replaced the hysterical by the normal awareness. Hypnotic suggestion, to which hystericals are commonly susceptible, will be equally successful; and the evidence becomes more convincing because of the automatic intelligence that guides the handling of the objects that are seemingly lost to both sight and memory. The anæsthetic fingers, that report to the central consciousness that they are wholly unoccupied, are properly slipped through the finger-holes of a pair of scissors, or take up a needle in the correct position for sewing. The indirect route of association undermines the anæsthesia: the suggestion is given that when the thumb is touched, a butterfly will be seen, and when the little finger, a bluebird; and the hallucination is effected even though the consciousness remains insensitive to the tactile stimulation. To another hysterical subject the suggestion is made that whenever anything blue appears, she will hear the ringing of bells; and though with her right (seeing) eye closed, she finds herself in the dark, yet as colored worsteds are passed before her left (anæsthetic) eye, all other colors are ignored, but the appearance of blue calls forth the remark: "Oh! I hear bells ringing." [1]

[1] While these observations are described as occurring in hypnosis, it must be added that in their waking state many hysterical patients are equally open to suggestion. Their constitutional dissociation is adequate in many instances to elicit the same varieties of evidence of the subconscious registration of what the dominant consciousness is disqualified from receiving.

The variety of anæsthesias throws an interesting light upon their causes or inducing occasions. The senses have by no means equal values for experience. The dominant intellectual attention follows the lead of the eye, and is served as its most intimate attendant by the highly sensitized central spot of the retina, — the fovea, — with which we definitely look, not merely vaguely see. Even in listening to a speaker's words, we facilitate their assimilation by a visual following of his expression. This most precious servitor of intercourse with the world so full of a number of things, we could least afford to lose from our conscious concern. In contrast with vision, touch offers a more dispensable type of information, — less aggressive, with less initiative. We could afford with resulting inconvenience, but with no irreplaceable loss, to remain relatively unaware of objects through handling them, and to receive them into our ken only as they fall within the range of our vision.

Hysteria presents types of selective awareness in accordance with these principles. One hysterical subject, who can be made to reveal by automatic writing what is impressed upon her anæsthetic hand, becomes aware that that member is moving, not by any direct sensation, but by seeing the movements as the pencil proceeds; yet these movements are intelligent, and are expressing the reflections of her consistent self. Natu-

rally, such writing is to her controlling consciousness an extra-personal affair, taking place, like digestion, in her organism, but not by her agency. Place her hand in a strained attitude, and she has a visual picture, but no direct perception of the uncomfortable position. Another patient, in whose anæsthetic hand several objects are placed one after the other, is induced to move her hand so as to bring what she grasps before her eyes: whereupon she remarks with surprise, "Why! I have a key in my hand!" In yet another case, a fictitious object is introduced as a visual suggestion, and by its strong appeal arouses the dormant tactual sensibility. The suggestion is made that the subject sees a caterpillar and that it is crawling upon her anæsthetic arm, whereupon she both sees and feels the unpleasant hallucination.

It is thus not by accident that what drops out of the hysterical field of awareness is what in the mental economy of the intellectual and emotional intercourse may be most readily spared; and further, that within the dispensable field such avenues of information are retained, or partially so, as still find useful connection with the intact perceptions. Touch and the indirect field of vision, or the sensations of a slighted hand or outlying retina, may thus be dismissed, and the more readily, as they are specially localized instruments, — separable parts of a whole, that may be sacrificed while retaining the service of the remaining more important sensory areas. By the same subconscious economy, sensations essential to a situation are perceived even by the "silent partner;" hysterical subjects who fall or swoon in an attack do so without hurt through taking notice of threat-

ening obstacles; and again, they do not allow the disqualified sense to overturn the assimilative processes that the active senses furnish. An ingenious test of this relation was elicited by placing a piece of cardboard between the two eyes and extending it to the printed letters which the left (seeing) eye could read, but the right (mentally blind) eye could not; though by this device each eye could see only the letters on its own half of the field, yet the right (blind) eye continued to finish the word, the opening letters of which were presented to the left and the concluding letters to the right eye only. And upon the negative side we find that the central part of retinal vision is not lost any more than is hearing, for both are too essential to the mental life. Hearing especially will not be forfeited, because it is too necessary, too intimate, too social a sense, too little consciously apperceived as an instrument of exploration of the objective qualities of impersonal things.

Its messages appeal more directly to the self, at once achieve translation in terms of intellectual and emotional meaning, and are thus concerned with the indispensable ties of personal assimilation. If, then, the assimilative horizon must be narrowed, the least insistent, the least independent, and the least interesting appeals will be sacrificed; it is to this principle that many, though by no means all, of the seemingly capricious psychic anæsthesias conform.[1]

[1] It should not be hastily concluded that this is the sole reason for the prevalence of tactile anæsthesias. There are doubtless more direct motives inherent in the texture of the nervous system that induce these disorders to assume their specific symptoms; and, furthermore, such anæsthesias are both fluctuating and sub-

The surrender of an opportunity of possible experience, or the mental rejection of certain types of stimuli, is not a phenomenon that stands in isolated independence; it inevitably involves concomitant disqualifications both of assimilation and of control; and it does so because the dissociation of consciousness is a functional failing that leaves its impress upon all the several factors of the mental life that participate in its consummation. Exclusion of suitable claimants from recognition is but one consequence of dissociation. Divorce from feeling stands in closest relation with divorce from control; and both intimately react upon the memory registry, and most complexly upon that phase thereof that imparts the personal flavor to experience and develops the traits of a consistent character. The relation is simplest in terms of the measure of awareness that is needed to guide movement. Acts of skill, all organized movements, require the integrity of the sensory clues in dependence upon which the proficiency was acquired. The expert billiard player or marksman must have an accurately gauging eye as well as a nicely controlled hand;

ject to maturing changes, by virtue of which a limited and potentially transient lapse develops into a more widespread, more systematic, and more permanent anæsthesia. Such variants and concomitants of hysterical symptoms are again considered; see pages 319, 332, etc. For a more detailed treatment, the first chapter of Janet: *The Mental State of Hystericals*, may be consulted.

the trained singer requires the corrective regulation of a sensitive ear to maintain a minutely delicate direction of the vocal mechanism. If, then, I can skate or swim, play the flute or violin, sew or weave or carve or write, I direct these accomplishments by virtue of the guiding sensations, the very possession of which is a vital part of my proficiency. When these accomplishments are of long standing and deeply ingrained, we call them automatic, and note with what suppressed consciousness and with what slightness of effort they are conducted; if new or of peculiar complexity, or if involving unusual intellectual factors, we observe how they enlarge in the field of our awareness and encroach upon our directive energies.

The direct conclusion from this relation is that a psychic type of insensibility would be accompanied by a psychic type of paralysis; disqualified feeling should induce disqualified doing. Yet before testing the validity of this deduction, let it be noted that this sensory factor is not the whole of the voluntary action: to develop sensation into action requires an efficient impulse, — the will to do. Knowledge is not yet power, though indispensable to it, but becomes so when executive control completes the circuit; the motor requires a battery as well as a proper construction and proper connections. There may, accord-

ingly, be abject weakness of will, — abulia, — a symptom common in all nervous weakness, and even more characteristic of neurasthenia than of hysteria. It is the deficiency of voluntary attention that conditions the mental contraction and facilitates the anæsthesias; it is this, too, that leads to other specific concomitants of a dissociated consciousness. It was, indeed, in the form of such a momentary and limited will-paralysis that the simplest hypnotic phenomenon was induced; the will-impulse was shorn of its efficiency by the force of a counter suggestion, just as normally it might be neutralized by fear, by scruples, or by prudence. Between these two types of motor impairment — the incapacity to perform a given act by reason of a lapse of the guiding sensory clues, and by reason of an irresolute or entangled impulse — it is important to distinguish. In uncomplicated cases the former becomes in the main a type of memory defect, a sensory amnesia; while the latter is classified as an abulia, or inefficient will. And whether an amnesic or an abulic symptom, the psychic paralysis maintains its peculiar status as a disorder in terms of a personal, conscious assimilation. What the will fails to effect can be accomplished by subvoluntary agencies, and what is lost to the directive consciousness is subconsciously registered.

The hysterical impairments of initiative, coör-

dination and attention, are immediately important as furnishing a favorable condition for the growth of dissociation. For the pronounced hysterical temperament, wide or well-maintained alertness of mind is difficult; two activities, though of slight import, can no longer be maintained at once; to give attention to a small area of experience involves the momentary loss of the rest. The spread of the search-light of attention is much reduced, while also its power of illumination is enfeebled. The mental blinders — though peculiarly selective in what they admit and exclude — are worn more and more continuously; the contracted habit of consciousness is formed. Systematic gaps in perception and in the control of the expressive agencies of the intellect are at first tolerated, then resignedly or stolidly accepted. The patient forgets to include her arm within her conscious concern; and it remains neglected, possibly in a permanently contracted attitude.

Extreme as this statement appears, there are analogies, though in miniature, in normal life. Two such incidents have been related to me: Husband and wife were seated at the breakfast-table; she was glancing at the headlines of the morning paper, and was just stretching out her hand to receive her plate from her husband, when her eye was caught by a paragraph that interested her intensely. During the entire reading of the item — certainly for a full minute — she held the

plate rigidly fixed in her outstretched hand; and then, the paragraph finished, she "came to" with a slight start and took the neglected hand back under her conscious wing. The rigidity of the hand, as well as its continuance of an attitude by an automatic response, was the result of its separation from normal consciousness through an extreme absorption. The other instance is quite similar, though less circumstantial: A preacher was observed to keep his uplifted hand high above his head for an appreciable time after the sentiment that aroused this gesture had been delivered, and to turn a moment later and suddenly lower his hand as though his eyes had just discovered the stranded member in its persisting attitude. The fully developed hysterical marooning of an arm — that when it assumes such a fixed attitude is termed cataleptic — is more permanent, more systematic. Moreover the cataleptic arm that is withdrawn from control is also anæsthetic, withdrawn from awareness; just as, quite possibly, in the normal instance, the husband might have gently touched his wife's hand that was automatically holding the plate, without reaching her engaged attention.

The uncomplicated formula, that called for the direct loss of the motor facilities through the loss of the memory of how to direct them, may also be observed in hysteria; and the psychic nature of the defect is again shown in its functionally selective character. With an actually paralyzed arm, none of the muscles whose nervous centres are disordered can be made to contract; but in

hysterical paralysis, it is not groups of muscles, but a motor apparatus in use for specified purposes that is affected. The hand, though retentive of other accomplishments, can no longer sew; or the legs can run and jump, but cannot manage to walk; or more generally, the arm is retained for its service in non-personal automatic activities, but cannot be commanded for actions expressive of self-initiative or deliberate execution. In such instances we have the transition to the motor inefficiency through will-loss. The subject who cannot reach out her hand to take her needlework from the table, from sheer entanglement of her impulses (the desire and intention being strong), does this instantly when her imprisoned will is released by a hypnotic suggestion, or may do it unreflectively when by some ruse momentarily thrown off her guard. Very instructive is the instance of a robust hysterical maiden accustomed to heavy housework, — in the course of which she moves ponderous chairs and tables, which she does with the unreflectiveness begot of a semi-automatic task, — who none the less is able to record only the contractive power of a child, when asked to squeeze a dynamometer with all her available strength. Her muscular force is there, and serves her automatic habits; but the power of directing impulses along voluntary routes as the expression of a personal will has been hysterically

enfeebled.[1] Interesting also are those impairments of actions that, like the partial anæsthesias, require the support of the more consciously serving eyesight. With her arm held behind her back, a patient was unable to direct its movements or to become aware of them, though quite able to do useful things with her hands when they were occupied under the guidance of her eyes; yet she properly used both hands behind her back in lacing her corset in the morning's dressing. In such cases the definitely initiated, fully conscious movements must be visually directed, the independent tactual guidance having been sacrificed in the contraction of the hysterical consciousness.

It is appropriate to recall at this juncture that the primary purpose of this division of our analysis has been to pass in review the significant phenomena of dissociation, in relation to the subjective states and conditions that induce them. Such data directly illuminate the deviating phases of consciousness, transitory or persisting, that, viewed as a psychic product, contribute strikingly to the abnormal psychology of consciousness.

[1] The records of tremendous exertions under special excitements, such as an accident or a fire, are obviously analogous; and even invalids occasionally perform the impossible under such circumstances, in some cases the surprising demonstration of actual powers serving as the starting-point of a recovery. The normal relations concerned are discussed on page 29 and following pages.

The further expansion of such dissociated processes into more or less coördinated and independent agencies will form the theme of the succeeding exposition. The central consideration that we carry over to the sequel is the demonstrable range of psychical lapses — affecting predominantly the assimilative attitudes, the executive facilities, and the memory registry — that come to exhibit attenuated connection with the central consciousness, and thus variously to illustrate the sorts and conditions of dissociated functions. Two corollaries from this relation are equally important: first, that the several mental states in which such dissociations prosper are by no means of the same or even of parallel status, though always presenting some measure of affiliation, — an affiliation that extends in consistent though diminishing analogy to the slighter incidents, the abnormal lapses in miniature, of the normal life; and second, that the dissociation is to be conceived as a single consistent twist of the gears, flaw of the working of the mental mechanism, that is detected and described in terms of such distinctive deviations of the normal product in weave and pattern, in texture and design, as the technical skill of the psychologist enables him to set forth. The sensory gaps, the memory fadings and rejections, the motor entanglements, the personal limitations and extravagances, are but differently appearing

aspects of a common defect, of a more or less extensively, variously, and kaleidoscopically dissociated consciousness.

That this survey has been conducted upon a descriptive [1] and somewhat objective level is freely admitted, and is in pursuance of the deliberate plan to consider the relations involved more analytically in the presence of the complete range of evidence. The intrinsic nature of dissociation is thus not dismissed as an irrelevant or insoluble theme, but is deferred to the point at which the expository trend has been exchanged for the explanatory. Yet the rounding up of our present pursuit entails the obligation of suggesting the direction in which insight lies. Dissociation involves not only something set apart, stranded, — the parting of a cable and the setting adrift of some sections of the mental raft; it involves some central dominating agency from which the dissociation takes place. It involves, in other words,

[1] It would have been apposite at almost any stage of this exposition to call renewed attention to the fact that I am not giving an account of the assimilative, retentive, and voluntary abnormalities of hysteria, any more than of hysteria as a whole. I am singling out certain phenomena that have bearing upon dissociation, and that occur typically in hysteria. Just what place these occupy in the *ensemble* of this protean disorder, as well as a general perspective of hysteria with realistic details, can be gathered only from the special literature, mainly of a medical turn. To this field, Janet's *The Mental State of Hystericals* is a suitable introduction.

that when we experience anything and make it our own, there is an act of incorporation, possibly so elemental and seemingly inevitable that we do not conceive it as a separate activity of our mental life, but yet some personal reaction that brings the experience within the intimate circle of our personality, that makes it our legitimate kith and kin. The complete act of assimilation involves this synthetic factor; and the briefest suggestion of the dissociated experience that we can provisionally formulate is that it is deprived in various ways and for various causes of this synthetic privilege. The non-personal, non-synthetized experience, that yet achieves some registry in the nervous system, — which under special conditions becomes observable as furnishing mental nourishment to a subconscious form of assimilation, — is thus the dissociated experience; and the consequences to the intelligence in which such states habitually occur and multiply inevitably affect the entire personal integrity of consciousness. By such development do dissociated states pave the way to disintegrated personality.

V

THE GENESIS OF ALTERED PERSONALITY

The aspect of dissociated mental procedure that requires studious consideration is that reflected in the memory function, and particularly in the phase of mental registry that binds experiences together, knits them firmly into a coherent continuum, and imparts to the whole the intimate personal flavor through which they become *our* experiences. The stability as well as the unity of a normal mental life is based upon an integrity of feeling and thought, which expresses itself as a fair consistency of attitude and response amid the progressive assimilations of experience. The experiences in turn modify and develop but do not mar or derange the evolution of personal growth, and thus promote the building of an individual self. From the presentation of the activities that contribute in normal life to maintain and foster a homogeneous self-consciousness, we may carry over two principles: the one emphasizing the distinctive attitude of alert assimilation that secures for normal experiences a legitimate place in the personal recollection; and the other, the equally distinctive will-like quality of assenting inclination that attends and

consummates the admission of the applicant to the private hearth. The personal assimilation when more passively receptive, and the personal fiat when more actively expressive, stamp with the hall-mark of an authoritative registry the normal issues of our mental constructions. These, though complexly various in scope and purpose, yet contain a sufficient infusion of the personal alloy to meet the assay test as sterling metal of our mental realm. The nature of this assay, so much of which is conducted in the subconscious laboratory, it is difficult to set forth in simple formulæ; the assimilation proceeds upon the basis of an intricate complex of organic feelings, of specifically directed perceptions, and of reasoned relations, the joint issue of which accompanies and pervades the progress of mental life. Its presence, however, is so elemental and so normal a feature of the mind's progressions that it brings to consciousness no distinctive feeling, such as attends its momentary lapse; [1] the sense of personal orientation explicitly emerges in the moment of awakening from sleep or anæsthesia, when all is confusion until the pressing query, "Where am I?" has been satisfied.

[1] In this respect it shares the traits of many partly organic, partly subconscious perceptions; such are the sensory clues by which we maintain our equilibrium, which we feel not directly as sensations of positive character, but feel acutely in their disturbance as slipping, tottering, unsteadiness, dizziness, and the reflex accompaniments of nausea, headache, and vague organic discomfort.

Yet this orientation discloses but one expression of the personal quality of experience; and elemental as they are, the several factors that further the personal growth are subject to lapse, disorder, illusion, and disintegration. Through a disturbance of organic feelings that gives an alien quality to the consciousness of one's own reactions, or through altered attitudes and interests that impart a strangeness to what is yet recognized as a familiar environment, or through the felt presence of a gap or confused memory in the reconstruction of the immediate past, there may be some awareness of the altered condition which, though subtle and difficult to reduce to words, affects most vitally the dominant tone of the personal consciousness. Likewise may the rupture be so complete as to destroy the possibility of arousing explicit awareness; the altered state retains no introspective standard beyond its own experience. Yet evidences of the change hover in the margins of consciousness and affect its moods and temper; though but feebly and distortedly appreciated by the subject thereof, the altered mental status clearly appears in the objective behavior to which the disturbed self-feelings give rise. It would thus seem possible that through some obscure conditioning factor in the nervous substrata of the mental life, the reactions should fail to yield that personal quality which is their shibboleth, and for

lack of recognition go about as strangers in their own realm. The causes of such disenfranchisement — beyond the general indication of an abnormal condition of internal affairs — cannot be adequately inferred from such knowledge as we possess of the mental constitution. Such losses of natural privilege may arise significantly from states of internal dissension, from failure of harmonious coöperation among constituent bureaus of administration, and as well from incapacitating disruption of the entire government. The special, as well as the general lines of dissolution, which they express, must at the outset be empirically traced, then charted and set forth with such meaning as the insight of our interpretations may supply. They will not be found to follow any simple system of contour lines, for such disturbances are of perplexingly different types; yet the more significant of them (disregarding the organic disorders that involve or approach actual insanity) have in common the factor of personal disintegration, to which the liability to dissociated attitudes or states directly leads. The transition that is now to be made is accordingly from the analysis of partially dissociated phenomena to the study of dissociated-mindedness; from a survey of the more isolated and transient traits and symptoms to that of the more systematic, more independently organized, more regularly recurring, more permanent

and even usurping changes that interrupt and dethrone the normal continuity of dominance of a unified personality.

To prevent our straying amid the perplexing tangle of the abnormal jungle, let us blaze a preliminary trail by chain and compass, which we may later exchange for a more natural highway when the topography of the region shall have been laid bare. We have observed that the onset of spontaneous somnambulism transports the sleeper to a condition in which a certain range of his mental efficiencies is brought into activity, while otherwise his mind remains asleep; and, further, that the confirmed somnambulist, in reverting to this condition, may take up the thread of his detached experience and connect one phase of his sleeping activity with the others, while yet the sequence of his nocturnal occupation remains concealed from his normal memory, which consistently concerns itself only with what the waking self initiates and assimilates. In such a group of incidents, we have not only recurrent states of dissociation, but the beginnings of a dissociated personality as well. The sleep-acting consciousness remains rudimentary and restricted, decidedly cramped in the scope of its doings and perceptions, because so relatively narrow a portion of the faculties are alert; yet it partakes of the traits of a personality in so far as during somnambulism

the individual exhibits consistent interests, acts upon memories, is possessed by impulses and takes possession of muscles to carry them out, modifies his behavior by adjustment to situations, reflects and devises, — all of which conduct may be in contrast with, as it remains unrevealed to, his normal self. He is in no strained sense of the term a different person when normally wakefully occupied, and when somnambulistically occupied. In thus characterizing the difference we still recognize the superior coherence, the far greater scope, the vastly more developed status of the normal self.

An altered personality may thus be a mere chip of the parent block, possibly only the exaggeration of a vagrant mood of the dominant temper; yet these defections may be appropriately viewed as the sprouts of budding personalities, which, grafted upon a suitable stem and meeting with favoring circumstance, may send forth distinctive flower and fruit. The tree remains in a true sense a single growth, germinating originally from a single seedling, but at the time of its fruitage presents a decidedly different appearance as we approach it from the one side or the other. Should the grafted branches flourish and multiply, while the more original limbs remain barren, it becomes questionable whether to describe our abnormal product as a peach-tree bearing plums, or a plum-tree grafted upon a peach trunk. Yet our simile

loses pertinence when we recognize that alterations of personality are likely to develop as alternations of personality, that in our psychological orchard we must be prepared to find peaches upon the tree one morning, where shortly before we saw plums.

Whether the transformations shall be regarded as encroaching upon the sphere of personality will thus depend upon how extensive, how organized, how independent they become. We have observed how differently the dreaming consciousness conducts its affairs from the business methods, interests, and standards of waking life; but while the dreaming self may be conceded to be sufficiently independent, it ordinarily lacks comprehensiveness and organization. We find it altogether more rational to speak of our "dream-states," rather than of our "dream-selves," and to record their possibilities and limitations, their affiliations and contrasts to the waking states. Most of all are they deprived of possibilities of development as personalities by reason of their exclusion from the use of a motor apparatus and of sensory channels of intercourse, as well as of the restrictions under which they operate in their drafts upon an inner world of contemplation. Our dream-life is thus a reflected, dependent, distorted, and sporadic abstract of our waking consciousness. Accordingly we find no difficulty in accepting these dream-experiences as indicative of normal gaps in our personal con-

tinuity, incidental to the periodic necessities for repair for fatigued functions; and with the refreshed alertness of the morning — or less clearly as well as less cheerfully in the momentary wakefulness of the night — we resume the sequence of our affairs with ease and precision. The somnambulistic intrusions, though still sharing with dreams the incidental, parasitical type of being, command a more comparable approximation to the waking functions, and accordingly present greater possibilities of expansion. If the tendency to somnambulism chanced to be so regular and so pronounced that the relinquishment for any cause whatsoever of the normal self at once transformed the individual to this partial waking condition, in which a distinctive though handicapped mental life was carried on, and if these phases of mental activity tended to be pursued in some consistent sequence of interests, the waking personality would come to be alternated by a somnambulistic personality; the parasitic life would be comparable in status with that of the host, and if the process developed sufficiently, it might become difficult to say which was parasite and which host. Naturally, a disintegration of this degree of independence could not reach such importance unless the parasitic intrusions pervaded or interrupted the larger spans of waking activity, — not merely the briefer, passive ones of mental abeyance in sleep, — and

unless the intrusions were sufficiently comprehensive to acquire some command of the indispensable instruments of the intellectual life, the senses and muscles, and the acquisitions and endowments that are the deposits of experience in the mental organism.

If, then, through some flaw of the cementing quality of the mind's constructions, an individual were liable frequently to lose the continuous exercise of his personal assimilation, — the recurring loss in so far interrupting the sequence of waking thought, — to lapse into a quasi-somnambulistic state in which he retains a restricted and altered use of his acquisitions, yet retains them sufficiently to carry on a mental life in his ordinary environment; if, moreover, such transformation restore to him the memories of activities in similar lapses that have overtaken him, we should presently be constrained to admit that during the lapsed intervals there is present an altered personality. The gaps would not merely have enlarged in extent, but developed in complexity; so that, forming some coherence in their sequence, they bridge over the interruptions of what is still the more primary, the more real self, and effect an organization of their own. This independent corporation, if favored by circumstance, may have a fair chance to live and move and have a being, measurably distinct from the active single existence that previ-

ously constituted the unified life of the individual. Such instability of character would be clearly abnormal, but as a trait or accident of the mental organization, may be considered as an aggravated development of the same type of disturbance that leads to the phenomena of dissociation.

The guiding principle that brings some measure of comprehension into these obscure and protean phenomena is that an altered personality is the issue of a recurrent and systematized liability to lapsed or dissociated states; that further, in order to expand into a partial or complete personality, such dissociated states must acquire a consistency of sequence that develops an integrating memory, an avenue of expression and assimilation through the use of all or much of the sensory and muscular systems, and proceeds also with some selective participation in the endowments, acquisitions, and habits of the more original, stable self. The manner of such participation serves as a significant clue to the type of disintegration that has ensued. It is wholly possible that the fissures along which division occurs, the lines of cleavage, may be quite variable, resulting in this or that phase of a handicapped self according to the division of facilities and memories retained and lost. An altered personality issues from the recurrent and related disintegrations along the *same* lines of cleavage; a constantly shifting partition-

ing would lead to mere confusing interruptions of mental continuity. The fact that such dissociated personalities acquire recognizable physiognomies points to a constant conditioning flaw in the functional operations of an unstable nervous system; the machine has a tendency to break down in a definite way; but what the nature of the twist may be that produces such strange disturbance in the mental operations we do not know, can hardly conjecture. Amid much that remains obscure and baffling we may explore the *terra incognita* with some system in our route, some interpretative aids to the comprehension of what we shall discover. The phenomena of altered personality do not stand alone and unrelated; they represent a peculiarly involved development of mental disintegration, and take their place at the end of a series whose successive members have already contributed to our general analyses.[1]

[1] The reader must bear in mind that what is here traced is the *evolution* of a dissociated personality. The *curtailment* of a self by the disqualification of a portion of its acquisitions naturally induces so altered a status of the mind's occupations as to merit the name of an altered personality. Yet the two conditions, though not without points of contact, are distinct. The latter type will be considered subsequently under modified formulæ of interpretation. It is entirely possible that the same obscure type of brain injury that leads to disintegration of personality may result from other causes, particularly from a sudden shock or accident. Such traumatic cases form an instructive variation from the maturing ones, and equally with them must be taken into account in formulating a conception of their genesis.

The examples of dissociated-mindedness in hysteria have been taken from cases that were not complicated by fully developed alteration of personality; they were incidents from the lives of bereft, handicapped, or crippled personalities, but the realms thus withdrawn were too incidental, too fragmentary in character, to take rank as foundations of seceding colonies from the parent stem. It is naturally the case that the several types of mental dissociation cited, and yet more involved instances, attend the formation of altered personality in hysteria; and it is equally a consequence of our general position that the soil in which such dissociated personalities are likely to flourish is that supplied by the hysterical temperament. What this means is that the manner of formation and the distinctive characteristics of these deviating and seceding personalities will partake of that peculiar status, especially of that paradoxical mode of intercourse between the original primary consciousness and its derivative variants, that we have come to recognize as a distinctive trait or stigma of the hysterical frailty. The perspective of principles that emerged from the study of the dissociated consciousness will remain equally pertinent to our present pursuit.

It will be profitable to consider first such instances of modified personality as leave the primary self least disturbed, leave it indeed so slightly

affected by the half-acknowledged parasitic life that the adjustment to the ordinary conditions of existence remains fairly normal. Still more aptly would such cases answer the theoretical status demanded by our preliminary triangulation, if the transition to the altered state required the consent and support of the dominant self, that continues somehow to maintain a protectorate over the surrendered estate. Conditions of this character may be found in what are described as trance-states; and the trance, though it at times takes the disposed subject unawares, yet quite commonly is entered upon with some such deliberate assistance as attends our awaiting of sleep. The subjective status of a trance is not very sharply differentiated from that met with in hypnosis and in the more pronounced hysterias, but on the whole stands for a more superficial degree of disintegration. The directive trend of thought is shaped by procedures more nearly allied to the normal; the source of the "inspirations" is more definitely traceable; it occupies and is made known in greater measure to the waking consciousness, though the intercourse between the two is by no means so open as entirely to acquaint each with the affairs and impulses of the other. The relation is suggestive of the waking occupations of that partially repressed and suppressed type, in which under-selves and unrealized potentialities commonly find solace for the

harsh demands of a strenuous practical life; for these, too, approach sufficiently, even if feebly and grudgingly, to the focus of reflective consciousness, to find illumination by the light of introspection. For these combined reasons, an analysis of the trance-state furnishes the most suitable introduction to the study of altered personalities.

An unusually instructive instance is that recounted by M. Flournoy.[1] Hélène Smith — the name given to the subject — is described as a young woman in good physical health, of an impressionable temperament, and as displaying certain sporadic though unmistakably hysterical symptoms. A decidedly imaginative child, she indulged passionately in day-dreaming fantasies in which she was ever the central figure. She lived largely in this fictitious world of romance, in which she was not her work-a-day self, but the material proxy of some more exalted personage. The Cinderella rôle of her half-credited fables

[1] M. Flournoy's book has been translated under the title "From India to the Planet Mars" (1901); the sequel thereto was published (in French only) in 1902. It is altogether a misfortune that the spiritualistic cast of the trances, in which Mlle. Smith acted as a "medium" for a convinced circle, should so decidedly mar the psychological portrayal of the plot as the evolution of subconsciously developed personalities. M. Flournoy has in a measure reduced the irrelevancies, while the English edition has aggravated them. Though the development of the case itself, as well as the accounts thereof, is decidedly warped by these prejudiced attitudes, the essential outlines of the tale are clear enough to deduce therefrom a psychological interpretation. This alone is considered in the use of the data that is here attempted.

offered a seductive contrast to the commonplace surroundings of her modest home in Geneva; she felt estranged from her family, as one destined to a higher calling, and even questioned whether by chance she were not a changeling. At the age of fifteen she was apprenticed to a large shop in Geneva, and earned her way to a responsible post in this establishment. Throughout the development of the trance-personalities she maintained herself in this position, filling her round of duties, as a reliable, alert, conscientious, and tactful business woman. This practical occupation may have been the salvation of her normal personality, compelling, as it did, a wholesome absorption in objective details, and providing an effective *milieu* for her normal life. It seems probable that, had there come no opportunity to stimulate the growth of the disintegrating tendencies, they would have died a natural death, would have faded away under the pressure of the real concerns of practical life. The critical issue — the decision of thumbs up or thumbs down — was supplied by a dilettante dabbling in spiritualism, which ended in crystallizing her subconscious reveries in accordance with the conception of impersonations or incarnations of departed spirits, and in thus giving them an accredited habitation and an inspiring name.

It will be understood that Mlle. Smith's abnormalities previous to the spiritualistic séances revealed nothing more than an occasional automatic intrusion, an absorption in her subconscious romancing, so intense as to breed under emotional stress a projected hallucination, — the automatic response of a susceptible brain to a passionate devotion to its own figments. Occasionally, too,

her conviction of the reality of her day-dreams was strong enough to impart a sense of unreality to her actual doings; the half-acknowledged drama encroached now and then upon her real world, and she found herself acting and thinking in terms of her fictitious creations. All this hardly exceeds the normal vagaries of adolescence, except possibly in the vividness with which, in a moment of special impressionability, the subconscious constructions assumed the bodily semblance of solid flesh. As soon, however, as the séances began, and Mlle. Smith found that her hand could write messages seemingly remote from her control, that she could lose herself in a condition in which she responded to suggestions and acted upon impulses that were imposed by her altered state, the private region of her mind blossomed into publicity, and the "spirits" found an occupation.

The most significant personage in this drama of dissociation takes the part of guide, philosopher, and friend. Psychologically this indicates a sufficiently disturbing awareness on the part of the normal consciousness that certain of the measures and thoughts brewed in her mind are not wholly composed by her directive self, to induce her to find a responsible source for these dissociated activities in a foreign personality, with whom, in accord with "spirit" doctrine, she communes. This assumed guardian of her subconscious life she calls "Leopold," and regards him — a sheer bit of fancy — as the reëmbodiment of the adventurer Joseph Balsamo, known as Cagliostro (d. 1795). Leopold's psychological justification is his ability to serve as the bridge that connects the doings of her entranced mind with the waking understand-

ing, to act as interpreter between the two alienated realms. At times Mlle. Smith actually *becomes* rather than is attended by her dissociated self; and there are occasional intrusions both of Leopold and of her dramatic creations into the stream of her normal waking life.[1]

By resuming the thread of the plot in successive séances, the trance-states have become systematized in turn about three cycles, all gradually developed, all at first crude and unadorned, and step by step embellished with fantastic details under the encouragement of a devoted and impressed *clientèle*. The setting of the scene of one of the dramas upon the planet Mars afforded a welcome security from verification, and set free the natural impulse to present things as fantastically transformed in the alembic of a luxurious though

[1] In many cases of hysteria the initial crisis seems to have been occasioned by a violent shock of an emotional nature. Many writers regard this as an almost constant and permanently significant factor in the development of the malady. It is quite clear that the extreme impressionability of the nervous system of hystericals to these organic shocks leads to a revival of the experience in memory, and to a recurrent shock whenever the recollection of the scene is aroused by any association, direct or indirect, with the original circumstance. This revival may often be of an unreflective subconscious type, and is apt to induce the moment of dissociation and the consequent cleft of personality. The present case exhibits a partial conformity to this view in an incident of Mlle. Smith's girlhood in which she was badly frightened by a dog, and seems to have been rescued by a priest. Quite a number of her hallucinations have disclosed a man in monk's garb; and the original scene has reappeared in some of her trance-states. This shock or traumatic aspect of the genesis of hysterical attacks appears in other cases, presently to be cited.

somewhat juvenile imagination. The characters are the departed relatives of inquiring friends, who are communing through Mlle. Smith's mediumship, and to whom are brought messages through her writing and speaking while entranced. Nothing thus revealed is particularly notable; and the interest is confined to the state of the "medium" while thus engaged. These states differ in the degree to which they induce unawareness of surroundings, loss of memory upon awakening, and altered sensibilities; the more vivid and sustained impersonations occur in the deeper stages into which Leopold plunges her by making passes, naturally through the agency of her own hands. Her communications take the form of the rapping of "Yes" and "No," or by automatic writing of her "controlled" hand, or by direct speaking through her voice; any of these methods may at times serve to interpret messages that come to her as visions, as auditory hallucinations, or as enforced impulses. Characteristic of the possession by an altered personality is the consistent change of handwriting, as one or another of the impersonated individuals writes through her entranced hand; or of tone, diction, and expression, when speaking through her voice. The sentiment and the situation are so realistically felt as to arouse by suggestion, in the impressionable, semi-automatic consciousness, the appropriate channels of expression. Much of this may be more akin to the dramatic objectification of a half-acknowledged invention than to a distinct lapse of personality; the actor is not wholly lost in his part, or, if we prefer to say so, the entranced personality is not immune to the histrionic phase of its own conduct; yet

it presents just that complexion of self-centred motives by which, in susceptible minds, quite real lapses of personality are favored.

That in thus assuming an altered personality, the normal self does not burn all its bridges behind it, is well shown by the occurrence of an intermediate state, in which the scenes from the Martian episode are again projected before her half-awake fancy, and enable her conscious pencil to sketch the revelations. These prove to be merely bizarre distortions — feebly suggestive of the pictorial travesties of Lear's Nonsense Botany — of quite earthly fauna and flora and the scenery and habitations of terrestrial man. Unquestionably the most notable product of this altered personality is the Martian language. As the events of this cycle were developed from week to week, the approach of a new and sensational feature was heralded. At first meaningless words in a strange jargon were heard, and their purport tentatively guessed; then her lips uttered the uninterpreted words, speaking in curt phrases; later, after further incubations, brief sentences were written in the new language, but in Roman characters; and finally came the crowning invention, in fulfillment of Leopold's promise, in the form of a seemingly well-rehearsed message in the Martian alphabet. All this goes on subconsciously without explicitly arousing the direction of the waking consciousness, which remains unaware (with the peculiar type of unawareness that is characteristic of a dissociated state not wholly sundered from the central consciousness) of the meaning or the origin of these linguistic symbols. Unquestionably as a memory feat, on the part of any type of depend-

ent personality, the achievement is creditable. Yet one is prepared for the discovery revealed by an analysis of the structure of the Martian sentences, that they prove to be closely modeled upon French, the only language that Mlle. Smith knows well. It may require no special originality to devise such an alphabet, but to hold in mind the strange forms and to combine them consistently into equally artificial words, argues a vivid power of visualizing of which there is much corroborative evidence. It appears, indeed, that many of the scenes that Mlle. Smith so dramatically presents come to her as visions, which are then set to words and movement. The revelations of Martian scenery and the hallucinations that project themselves from her suppressed fancies into her waking life are quite constantly of marked visual vividness, with an objective realism rich in detail.

Another conventional trance-drama materializes a Hindoo cycle, in which Mlle. Smith's rôle is that of the wife of a Persian sheik of the fifteenth century. In the most dramatic scene, which she enacts largely by pantomime, she is compelled by the customs of her race to throw herself upon her husband's funeral pyre; before her self-sacrifice she tears from her person the ornaments appropriate to an Asiatic princess, — rings, bracelets, necklace, earrings, girdle, anklets, — and with the expression of resolute devotion mingled with growing terror, she ascends the pile, — then collapses in a state of physical exhaustion, from which Leopold gradually restores her to a normal condition. A more joyous scene from the same drama consists in the reading of love letters from her royal *fiancé*, the whole presented with realistic rendering of emo-

tion. Throughout both the Martian and the Hindoo cycles, there is introduced a fair variety of fanciful episodes that give complexity to the plot, which, it must be recalled, is developed in response to the suggestions of the sitters and the stimulus of her own invention, in successive séances covering a period of weeks or months. While testifying to the genius of the "medium's" constructive fantasy and dramatic talent, they afford no deeper insight into the psychology of the trance itself.

The third impersonation introduces a more modern setting; the medium becomes Marie Antoinette, and her mentor appears in his historical character of Balsamo, who presents himself as a devoted subject of the queen. For hours at a time, Mlle. Smith poses as Marie Antoinette, speaks in the manner of royalty, converts the companions assembled about her into a royal court, carries on a conversation with Balsamo, whom she calls her *cher sorcier*, partakes of material food at a banquet in disregard of her normal appetite, apparently insensitive to alcoholic potations that would prove disastrous to her normal self, and convincingly exchanges her real for the fictitious personality.

The precise status of the parasitic life that reaches distinctive expression in the trances is significantly indicated by the manner of its origin, by the intrusion of these personalities into the concerns of the daily life, and by certain occurrences during the trance that reveal the measure to which the normal self has withdrawn to give way to the fantastic impersonations. In general it is true that the personal hold of these constructions increased as the plot developed; seemingly, at their origin, they were held apart in a detached area of her con-

sciousness, coquetted with as half real and as half make-believe; while with continued indulgence, the characters of her trance-stage became wholly real citizens of a remote but mentally accessible realm, from whom occasional visits to privileged *protégés* might be expected. Accordingly, Mlle. Smith was sufficiently acquainted with the appearance of the Martian and other personages to recognize them when they appeared as hallucinations. Such visions, while most common at the moments of falling asleep or of waking, came occasionally during working hours. The characters appeared in proper costume, spoke the language of their race; and in departing left so clear an impression upon the seer's mind as to enable her to record the sound of the words that she had just heard, and to sketch what had been revealed. During the incubation of the Martian alphabet, she saw in clear daylight a broad horizontal bar changing from flame color to brick-red, to rose, against which appeared some strange characters, — recognized at once as the promised Martian alphabet. It was through such automatic revival in a nearly waking condition that the detailed description of Mars and India was secured; nor was the more familiar environment of the royal cycle excluded from this manifestation. At one time she was haunted by glimpses of a large French *salon*, in which was enacted a domestic scene appropriate to the life of Marie Antoinette. Of quite similar status, though often more vague and with greater personal appeal, were the brief messages or warnings that came to her as premonitions. Upon one occasion she was sitting at her desk, when suddenly she heard spoken the words, "Until this evening." In the evening

she felt uneasy, essayed automatic writing, and found that the pencil conveyed a long message to relieve her disquietude. It thus appears that an intermittent intercourse was maintained between her trance personalities and the active self of the daily life. Quite possibly the more detailed of these visions involved a partial return to a trance-state; but the briefer ones came as intrusions into a moment of clear consciousness, and are suggestive of an eruption from the submerged area in which during practical occupations these half-acknowledged creations disport themselves.

While the other personages have but an incidental share in her waking life, it is natural that Leopold, who represents the more personal phase of her dissociation, should appear most frequently, and have power not alone to enter her thoughts, but to affect her conduct and impulses. At times he is content to send messages through automatic writing, in which he gives assurance of his concern for her welfare, offers consolation for the trials of her daily life, makes predictions of interesting events to come, or pronounces a ban to forbid compliance with what her friends have asked of her. It was he who on one occasion barred the street that led by the most direct route to her home and forced her to take a circuitous path, though the reason for this precaution never appeared; it was he who interfered by paralyzing her arm when she was lifting a heavy piece of cloth from the shelves, as a warning that this was too severe a tax upon her strength; it was he, too, who appeared at moments of emotional excitement, such as that of receiving the news that a benevolent lady, interested in Mlle. Smith's mediumship, had supplied the means to

enable her to devote herself wholly to this cause. Just as she was entering a street-car to bring the joyous tidings to her family, Leopold appeared, which portent she interpreted to mean that she must first go to the shop to bid farewell to her employers. Apart from these incidental intrusions, Mlle. Smith was quite free to carry on her active life as her commanding self directed; her motor channels were unaffected by the foreign invasion, which occupied — always in a superficial, not very intimate or usurping temper — the less substantial world of longings and dreams.[1]

[1] Though exceptional, it is possible to find an incident from the trance-experience persisting into an active moment: thus she was troubled for a time by the hallucination of a straw hat which she saw in a definite position about three feet off; and it proved that her eyes were fixed upon this object in the impressionable moment of awaking from the trance. Again, she had the feeling for some days of something grasping her left wrist, a feeling that to her seemed causeless, but was due to the violent wrenching, while entranced, of a bracelet from her arm. To these instances a single useful subconscious impression affecting her practical life may be added: She was questioned by one of the salesmen as to the disposal of a piece of goods, and gave her impression that it had been sent for inspection to a certain customer; while speaking, the number eighteen loomed up in her mental vision; whereupon she ventured the further opinion that this had been done just eighteen days ago. The impression thus projected through subconscious channels proved to be correct.

Evidence of the converse relation by which events of her conscious waking experience reappear in the trance-doings is readily found; the general interpretation here offered involves this relation, though not in an open, fully acknowledged intercourse. It is likewise interesting to note that occasional "asides," not intended for the medium's personal ear, are heard and heeded. Upon one occasion Marie Antoinette accepted and smoked a cigarette; but

These details are as typically significant of the hysterical status of Mlle. Smith's trance as of the occasional disintegrating tendencies of her waking moments. It is just this status that removes the phenomena from the field of conscious acting, and equally from the field of more deep-seated disintegration, of more thorough and organic loss of mental stability. The type of dissociated-mindedness that this narrative so interestingly represents exhibits a sporadic and again an acknowledged form of intercourse between conscious and subconscious modes of assimilation and elaboration; yet it illustrates as well how the variety of dissociation that here prevails, though presenting equally systematic contours, does not penetrate so deeply into the mental tissue as those presently to be described. The mental cleavage is of a kind that permits readier communication between the two realms, and likewise remains so uninvolved that the dominant trends of thought, and particularly the dominant occupations and the channel of their expression, are but incidentally encroached upon. So far as the interests of the normal active life are concerned, the dissociated personality may be said to be endured, possibly cherished, but is not embraced.

the unfavorable comments provoked by this liberty prevented its recurrence in succeeding séances. The dissociated personalities proved themselves thus alike versatile and educable.

The lines of cleavage in disjointed personalities may be so variously contoured that the individuality of the resulting alterations becomes their most conspicuous feature. The portrayal of each instance might profitably take the form of a character-study and proceed with the genetic method of a biography. From our present point of approach to the intimate phases of abnormal self-transformation, a system of paths radiates: we might quite logically proceed to consider cases of alternating personalities, in which an aggravated change of mood, conditioned by organic instability, induces an alternate fluctuation from a normal to an abnormal condition; we might equally well look for further enlightenment to instances in which a sudden shock cuts from its moorings a well-orientated life, and sends it adrift, without chart or compass, upon unfamiliar waters; likewise might we inquire how far a similarly conditioned disaster may give rise merely to the curtailment of the personal acquisitions, the degradation of a complex, organized, cultured, matured self, to an artless, untutored, bereft, weakened counterpart; also are we prepared to meet with disintegrations that ensue upon so slight a prompting of the unstable tissue, that quick and fleeting transitions of personal phases will be further complicated by the mutual relations engendered between differently dissociated selves, as these par-

tial and disenfranchised personalities come in touch with one another's doings. All these types of divided self-functioning have in common a marked invasion by the derivative personality of the sphere of active life, — a usurpation more or less enduring of the established throne, and a consequent disorganization of the several policies and practical interests of the realm. These deep mutations of the self-feelings are not held at arm's length in a semi-objective contemplation, but are incorporated with and at times replace the elemental psychic tissue that is the most intimate embodiment of our inner being. While each of these aspects of impaired personality will in turn receive attention, it seems more advantageous to proceed at once to a decidedly involved case, combining in a single narrative an unusually interesting and clearly exhibited group of psychological disintegrations. It may stand as a type of extreme personal instability, of hysterical genesis, the dissociative fissures of which appear readily and variously, and traverse deeply and intricately the organic strata of the mental structure.[1]

[1] The case is the subject of a volume by Dr. Morton Prince, entitled *The Dissociation of a Personality* (1905). Its value is greatly enhanced by the care and insight with which the development has been portrayed, interpreted, and directed. Dr. Prince has furnished the narrative with such enlightening comments that a study of the original is necessary to obtain an adequate account of the significance of the complex tale.

Miss Beauchamp, the subject of a remarkable tragedy of conflicting selves, may be said to have developed no extraordinary abnormalities until early or late adolescence. Distinctly impressionable, given to much day-dreaming, morbidly reticent and absorbed in an inner life of her own fancies, devoted to intellectual rather than to practical pursuits, and assimilating the actual events of her life with so intensely emotional and personal a coloring that the objective situations were habitually transformed into the subjective terms of her imagination, she furnished the suitable soil for mental disintegration to which the accidents of unfortunate circumstance [1] brought the favoring climatic conditions. At the age of twenty-three, when she came under Dr. Prince's care, she was a successful and enthusiastic student at college, well regarded by her friends, though recognized by

[1] The death of her mother, with whom she stood upon strained relations; further domestic complications that led to her running away from home at the age of sixteen; an emotional shock at eighteen, due to the shattering of her ideals by an experience to which only a morbid disposition would attach extreme import (though it is this incident that figures as the trauma that engenders the cleft of personality), — these are some of the accidents of the case. The early tokens of liability to dissociation took the form of occasional attacks of somnambulism, in one of which she was brought home by a night-watchman; frequent lapses or spells of distraction; vagaries of character sufficiently pronounced to have her known among her companions as "original" or "queer;" and intensely emotional and self-centred reactions to the trivial incidents of life. Yet Miss B. grew up in the main quite as numberless other young women, who have met with similar vicissitudes, have experienced like mental and moral misgivings, have displayed similar traits of character, and yet have wholly escaped the disintegrating tendencies that fell to her lot.

many as of a decidedly nervous, possibly erratic temperament.[1]

It is true, then, of Miss B. at the period of her greatest personal instability that "she may change her personality from time to time, often from hour to hour, and with each change her character becomes transformed and her memories altered. In addition to the Real, Original or Normal Self, the Self that was born and which she was intended by nature to be, she may be any one of three different persons. I say three different persons because, although making use of the same body, each, nevertheless, has a distinctly different character; a difference manifested by different trains of thought, by different views, beliefs, ideals, and temperaments, and by different acquisitions, tastes, habits, experiences, and memories. Each varies in these respects from the other two, and from the original Miss Beauchamp. Two of these personalities have no knowledge of each other or of the third, excepting such information as may be obtained by inference or second hand, so that in the memory of each of these two there are blanks which correspond to the time when the others are in the flesh. Of a sudden one or the other wakes up to find herself, she knows not where, and ignorant of what she has said or done the moment before. Only one of the three has knowledge of the lives of the others, and this one presents such

[1] One must anticipate the natural unfoldment of events by announcing at the outset that this Miss B. who presented herself for medical treatment proved to be a variant personality, and not the original and real self. This long unsuspected condition offered the most baffling factor in the problem, and was solved only after prolonged and ingenious experimentation.

a bizarre character, so far removed from the others in individuality, that the transformation from one of the other personalities to herself is one of the most striking and dramatic features of the case. The personalities come and go in kaleidoscopic succession, many changes often being made in the course of twenty-four hours. And so it happens that Miss Beauchamp, if I may use the name to designate several distinct people, at one moment says and does and plans and arranges something to which a short time before she most strongly objected, indulges tastes which a moment before would have been abhorrent to her ideals, and undoes or destroys what she had just laboriously planned and arranged." The social difficulties of such a situation are readily imagined, particularly in so conscientious and truthful a character as the subject of these episodes possessed. "To be frank and open, and yet not to 'give away' the fact that she has not the remotest idea, at moments when she comes to herself, of how she happens to be in a given situation, or what her interrogator is talking about, or even who he is, taxes her innate sense of truth, though it has developed a capacity for intellectual gymnastics and quick inference which is instructive. Her power in any one of the three characters of taking in a new situation, of jumping at correct inferences of what has gone before, of following leads without betraying her own ignorance, of formulating a reply which allows of an interpretation compatible with almost any set of conditions, — her ingenuity in these directions is surprising; and by showing what can be done by shrewd leads, guesses, and deftly worded responses, gives one an inkling as to the possible

origin of much of the supposed super-normal knowledge of mediums. In the case of Miss Beauchamp this is, of course, compulsory from the necessity of adapting her divided personality to the demands of social life."

Disregarding for the moment which phase or merged phases of the manifold personality will eventually prove to be the original, we may consider them as interrelated though conflicting aspects of an abnormally maturing individual. Most insistent when in the ascendancy, and most requiring suppression on the part of the personality striving to be dominant, is the personification of the opposing forces encountered in self-examination by every seeker of a sound and sincere individuality. This organized opposition — suggestive of "*der Geist der stets verneint*" — is naturally the one that most consciously engages the attention, is the force to be reckoned with in the struggle for existence amongst the rival personalities. To this demonic phase of her impulses the name of "Sally" was attached.[1] It may be best

[1] I am describing the multiple Beauchamp growth at the period of its mature efflorescence. The budding of the "Sally" personality is interesting: she appeared first as a variant of the hypnotized Miss B. The hypnotic procedure, instead of inducing a dissociation towards the "Miss B." group of possibilities, aroused the "Sally" group, — an issue suggestive of the fact that the latter aspect of the self had been for some time germinating in a private niche of her being. This hypnotic self, so contrasted in manner to Miss B. in a similar state, tried to get her eyes open by rubbing them, and by this release to emerge from a chrysalis to a butterfly state. In this attempt she was thwarted; but she watched her opportunity, and found it when the waking Miss B. fell into a spell of abstraction. She rubbed *her* eyes, and there was Sally, able to see and to enter upon her active career. At first she was much alarmed at

to begin with some concrete illustrations of these dramatic struggles, prefacing only that the lapsing into "Sally" was at times spontaneous, at times the issue of a strong but fruitless struggle, at times a seemingly voluntary recall, while the departure of Sally either happened spontaneously, or was volitionally brought about by this personality putting herself into a state of abstraction. There was no love lost between them; and Sally, who had with some difficulty achieved such independence of action, took an impish delight in preparing torments for her other self. Miss B., who had an abhorrence of insects and reptiles, found a box neatly wrapped, from which, as she opened it, six spiders ran out. Sally, who claimed to be subconsciously present to witness the effect of her practical joke, thus describes the incident: "She screamed when she opened the box, and they ran out all over the room." Special expeditions into the country were made to secure spiders and snakes and toads, — walks that were altogether too taxing for Miss B.'s strength. Sally never felt fatigue; yet naturally their common body showed the effect of such a strain. On one such occasion Sally went to a suburban town, where she waked herself up as Miss B., who, utterly stranded and without money in her pocket, was obliged to make the journey back on foot, arriving utterly exhausted. To torment Miss B., Sally

her illicit success, and was anxious to recall Miss B. She accomplished this bit of magic by burning *her* hand with the end of a cigarette. Naturally Miss B. soon became acquainted with Sally's meddlesome doings. It is well to note that at the outset Miss B. knew nothing of any of the other personalities. The account above given refers to the period after such knowledge had been gained.

would unravel the worsted work upon which the former was engaged, and when she permitted its completion, "pulled the whole of it to pieces, and drawing out the yarn wound it round about the furniture, carrying it from picture to picture, back to the different articles of furniture, then round herself many times, then back to the furniture, finally hiding the ends somewhere in the bed. Then Sally, standing in the midst of this perfect tangle of yarn, wakened Miss Beauchamp, who came to herself in the maze. So great was the tangle that she had to cut the yarn to get out." Sally likewise invades the premises of Miss B.'s intentions and coerces her to tell nonsensical lies, and to act upon impulses which the latter entirely repudiates, or is compelled with much embarrassment to explain away. Likewise she chastens by imposing penance, wise or foolish, and generally inconvenient. Discovering that Miss B. has been careless in money matters, Sally takes charge of the purse and hides all the money, leaving only enough in sight for car-fare and the most penurious allowance.[1]

[1] This state of warfare existed between Sally and each of the personalities that in turn was dominant. It consisted not only in mental onslaughts, insinuations, upbraidings, and vituperations, but also extended into the field of material entanglements, and occasionally into threatened or actual bodily harm. Upon one exceptional occasion Sally not only badly scratched Miss B.'s arms, but rubbed alcohol and lemon juice into the scratches, pretending that these irritants were remedies. It is interesting to record that when Sally's spite took the form of a threat to cut off Miss B.'s hair, the click of the shears was sufficient to wake up Miss B. and to prevent the disaster. Sally could at times be subdued by threats of ether or the hospital, provided she was convinced that the threats would be executed.

This cat-and-dog life was endured for months and even years, though with temporary truces and fluctuations of advantage. The personalities were sufficiently independent to arrange formal communication between them. Sally would write notes to Miss B. and pin the messages about the room for the latter to find. Indeed, the intrusions of this mischievous self were so sudden and so constant as to seem to require the supposition of an attendant consciousness (though Dr. Prince is careful not to commit himself to this interpretation) that listened even when Miss B. was the waking personality, that was able to remain in touch with the sequence both of her own doings and of those of Miss B. The relation became so intricate that Sally actually tried to impersonate Miss B., and masqueraded successfully in borrowed plumes until certain crucial tests exposed the deception. It appears that while Sally has knowledge of Miss B.'s ordinary doings, she does not possess Miss B.'s culture, being indeed quite contemptuous of books and study. Miss B. knows French, but Sally does not; and Miss B. has some knowledge of shorthand, of which Sally is ignorant. Miss B.'s conscious acquisitions, achieved by deliberate, alert effort, are thus removed from the ken of the subconscious and alternating Sally. On the other hand, Miss B. knows next to nothing of Sally except by inference, and through special communication, and describes the lapses which she feels during the latter's ascendancy by saying that she has "lost time;" while Sally describes her own subjective feeling when she is trying to come to the surface but is constrained in her efforts, as "being squeezed."

In the warfare between the two, strategy is often the better part of valor. At a time when a journey to Europe had been made possible by interested friends, Miss B.'s condition was so uncertain as to require special care in a hospital. Upon receiving favorable reports of her improvement, Dr. Prince was suspicious, and found the following state of affairs: "It came to light that Sally had conceived the idea that, as she herself was free from ailments, if she could impersonate Miss Beauchamp, she would be considered well, and so escape from the hospital and go to Europe, as had been previously planned. So, when the night nurse looked in upon her, Sally was always found 'asleep;' the day nurse had an equally good report to make, and Miss Beauchamp was soon, in spite of my warnings, discharged 'well.' A few days after this I caught Sally just in time, on the verge of her departure for Europe, and changed her, against her will, to Miss Beauchamp, who was astounded to find herself in my office, her last recollection being her entrance into the hospital ten days previously. It was thus by a lucky chance that Sally did not go to Europe instead of Miss Beauchamp." The measure of control that Sally possesses was well illustrated in her determination at a critical juncture that Miss B. should not be awakened. "Arguments, expostulations, even threats were of no avail. She did not want to be the other one, of whom she spoke in contempt. She simply defied me to wake Miss Beauchamp, and in fact every attempt on my part was unsuccessful. Finally we compromised; she agreed to allow Miss Beauchamp to be awakened, and I, on my part, agreed (may the ruse be pardoned!) that Sally

should come again when Miss Beauchamp was *well.*" We begin to appreciate why, in view of the marked differences of character which Miss B. and Sally and the personality that emerged later presented, Dr. Prince confesses to a temptation to call his volume "The Saint, the Woman, and the Devil."

The struggles between the saintly and the diabolical aspects of character having been thus sketched, it becomes necessary, in further exposition of the intricate drama, to consider that these several unstable personalities are more or less subject to suggestion. Through the usual suggestions Miss B. may be hypnotized and so may Sally; though the latter's hypnotic state is not so markedly different from her other, and Sally knows well what she does while hypnotized. But the hypnotized Miss B. becomes so sturdy and intelligent a person as to suggest that the group of faculties thus aroused may be a very important expression of a well-organized realm of her multiple being. The relations of these overlapping personalities to each other are too complex to be summarized; but the vital factor therein may be expressed (in the light of the final solution) by stating that Miss B., in the process of being hypnotized, became synthesized into the personality that would result from hypnotizing the original self. Conversely, in awakening from the hypnotic trance, it might be expected that the awakening should take the direction of the highly hysterical Miss B.; or again, that it should emerge as the original self, as that self was presumably constituted previous to the catastrophe that overthrew the stability of her personal character.

The missing act of the drama that was needed to give coherence to the argument was unexpectedly discovered, about a year after Miss B. was placed under Dr. Prince's care. To his surprise, he found her one evening in a wholly novel condition. It soon appeared that she did not know him, evidently mistaking him for some one else, was equally in illusion in regard to where she was, and had totally lost all remembrance of the entire chain of her life's history back to a critical experience of some six years past. This experience is the one already referred to as the occasion of the first serious lapse of personality. The scene in question took place at night in a hospital in which the original Miss B. was then fitting herself to be a nurse. The shock was occasioned by the sudden appearance of an intimate friend, — a man quite a little older than herself, towards whom she entertained mingled feelings of affection and regard, doubtless of an adolescent type. In a spirit of fun he had climbed a ladder as if to enter the building through a window; and later there ensued an exciting conversation between him and Miss B. Through the arrival of a note from this friend suggestive of the conversation of that memorable night, she had now reverted to the scene of this disturbing occasion.[1] Dr. Prince became to her through a hallucination the man in question. She upbraided him for his indiscreet behavior,

[1] The channel through which these incidents became known at this stage was the agency of the hypnotized self. The suggestion given to Miss B. in this condition that she should remember what had occurred at the Public Library, where the message from the friend had reached her, resulted in the revelation so essential to further comprehension and treatment of the case.

inquired whether he had knocked at the door, and in answer to Dr. Prince's natural affirmation that he had, she expressed surprise at his audacity, and strenuously denied his statement as well as his later claim that he was Dr. Prince, and that she had seen him during the earlier part of the evening before the change of personality occurred.

It will be well at this stage to summarize the argument of this intricate drama of shifting selves, with its quick changes of scene, its confusing entrances and exits, its alternating situations of tragic strife and embarrassing comedies of errors. It has been set forth that the personality that had been dominant (for about five years) when Dr. Prince first met Miss B., was in no acceptable sense her true self, but represented a divergent and dissociated phase of the complete personality. The second rôle in the *dramatis personae* is that of the individual whose life ceased with the critical incident that seems to have occasioned the volcanic disruption of character, and was resumed under a like associative shock some six years later. Calling to aid a numerical assignment of parts, Dr. Prince calls the Miss B. whom he first met B I, and the character obtained in hypnosis B II; Sally figures as B III, and this reawakened personality becomes B IV. It must constantly be borne in mind that the six years' gap in B IV's personal recollections of herself naturally remained unfilled except in so far as she could incidentally ascertain details about her lapsed self through Sally, or through shrewd guessing, "fishing," as Sally called it. Sally seemed not to understand why B IV should be thus ignorant, and for a long time spoke of this personality as "the Idiot." Equally, now

that the state had reappeared, though not permanently, did B I remain in ignorance of what was done while B IV was in possession; while the privilege of Sally was that of a complete acquaintance with B I's reflections and actions. It is by such intimate mind-reading that she can anticipate and thwart B I's plans. Sally knows nothing of B IV's thoughts by introspection, though she is able to note as if she were a witness what B IV actually does. Let it next be understood that though B IV has the memories previous to the hospital incident that rightly belong to the real Miss Beauchamp, yet she is not the original, fully integrated character. Naturally, the great defect is her ignorance of her career as B I; but this is not all: her character shows unmistakable divergence from the traits that the original character seemed likely to possess, a portion of its more worthy phases being clearly embodied in the moral traits of B I. Dr. Prince's efforts after B IV's appearances had become more frequent and more stable, were concentrated upon fusing B I and B IV, aiming to give each a memory of the other's doings and concerns, and the unified feeling of a common individuality. One method consisted in arranging a meeting upon neutral ground, which was the hypnotic field of B II, and there emphatically and repeatedly suggesting that the personality that would wake up would have all the memories of B I and B IV combined, would indeed *be* both of these in one. Another and more satisfactory method consisted in suggesting to B II, who actually possessed the combined memories of B I and B IV, and who by the theory adopted *was* the hypnotized real self, that she

should wake up, but *remain herself* without splitting into either the group B I or B IV. In this process Sally, B III, had also to be reckoned with; and upon the first occasion upon which this merging was attempted, the result was to summon a wholly distrait, "rattled" person, seemingly incapable of realizing herself or her surroundings. Later, Sally confessed that this fiasco was a token of her interference; and when at length, after heroic resistance, she had become reconciled to her own destruction, she consented to the waking up of the hypnotized personality into the real, original self. Of this "New Person" it is noted that her character was neither that of B I nor B IV. "She had lost the reserve, the depression, the emotionability, and the idealism of B I; but she had lost the quick temper, the lack of faith, the resentment, and the cynicism of B IV. She was a person of even temperament, frank and open in address — one who seemed to be natural and simple in her modes of thought and manner. Yet she more closely resembled B I, and might fairly be regarded as B I restored to a condition of healthy-mindedness."

With the ascendancy of B II over Sally, by which there was an incorporation of B I with B IV, the new personality was brought to life. She gradually acquired dominion over her own estates by discarding the idiosyncrasies of her partial personifications, by absorbing their more sterling traits, and by strengthening the issues of their union. The process was more than a cementing of memories, more than a concordant pooling of interests: it was a fusion of personal traits through selective affinity, an organic growth of

new tissue sequent to the healing of old wounds. Naturally, so intimate a process proceeded gradually: the real Miss Beauchamp came more frequently and more spontaneously, and remained steadfast, with only transient displacement by the old selves in periods of severe emotional strain. This consummated Miss Beauchamp may be regarded not only as the real personality,[1] but her existence and the quality of her character seem needed to impart a consistent set of motives and explanations to the otherwise irreconcilable situations of the narrative. The shrewd pursuit of the theoretical clues through which the legitimate mental claimant was found, and the tactful use of procedures thus grounded upon a psychological analysis, to effect the restoration to the estate, are

[1] It is hardly possible to set forth the complex claims to recognition of the restored Miss Beauchamp as the real self. The superior stability is reflected in traits that are more readily recognized than described. Release from marked suggestibility, freedom from wayward intrusions, consistency of traits and manner, evenness of temperament, control of associations and conduct, are all factors of a normally unified personality, that this new self clearly exhibited. Dr. Prince proposes various formula to represent the original disintegration and the subsequent synthesis. Substantially he suggests that the original Miss Beauchamp showed disposition to disintegrate along two divergent lines of cleavage. If the fissure were occasioned by one set of strains, B I appears; and if by another, B IV. These partial personalities are themselves subject to a relief of disintegration during the hypnotic condition. It thus becomes true that B I and B IV when hypnotized become the same person, B II; and the awakening of this person into a synthesis of B I and B IV effects the reconstruction of the original self. B III remains an interfering and differently related phase of her being, cannot be harmonized with these, and must be sacrificed in the consummation.

equally noteworthy features of this significant contribution to the comprehension of altered personalities.

The most convenient method of illustrating the manner of intercourse, both of coöperation and of opposition, that exists between the several fractions of this wholly disintegrated self will be to select from the great mass of incidents a few whose interpretation is alike direct and enlightening. Decidedly significant is the fact that the personality that goes by the name of Sally is at once the subconscious mentor and the intruding opposition. Actions that Miss B. performs in moments of distraction will accordingly be recorded in the memory of the subconscious Sally. Sally's powers in this direction are neatly shown in the following incident, related in her own words: "She yesterday received a letter from a photographer. She had it in her hand while walking down Washington Street, and then put it into her pocket (side pocket of coat) where she kept her watch and money (banknotes). As She walked along, She took out the money and tore it into pieces, thinking it was the letter from the photographer. She threw the money into the street as She said to herself, 'I wish they would not write on this bond paper.'" As further proof of Sally's knowledge, she quoted the entire letter verbatim. Sally's undisguised glee at the discomfiture that Miss B. would experience upon discovering the loss of her money discloses the nature of her animosity. Miss B. was now awakened, and acknowledged that she had received such a letter, which, however, she had torn up, but that she had in her pocket two ten-dollar notes. She put her hand in her

pocket and with great surprise found only the letter. The instance is the more convincing because Miss B. also possesses the faculty, allied to that of "crystal vision," [1] by which with special effort she can penetrate into the regions removed from conscious recall and see as a projected vision what her conscious memory does not reach. By such a process she was astonished to see in the glass globe herself walking along Washington Street, putting the letter in her pocket, and tearing into fragments pieces of green paper. The same subconscious relation may obtain between her sleeping and her waking self; for it appeared that during the night following this disclosure, Miss B. arose and hid the rest of her money to prevent similar disaster. She came to Dr. Prince complaining that she could not find her funds; under the influence of the hypnotic suggestion in the form of a projected vision, she saw herself reënacting the somnambulistic adventure: the going to the bureau-drawer, taking out the money, placing it on the table under the cloth, and then covering it with two books. Of all these details Sally was equally able to give an account.

The close parallelism between the relation thus convincingly determined and that which exists between a normally conscious and a normally subconscious action affords an almost ideal demon-

[1] In these visions, induced by a process which Miss B. called "fixing her mind," facts become known (either to B I or to B IV) which the active personality cannot by a voluntary effort recall. In this respect it is similar in status to an hallucination: the latter spontaneously breaks through from a submerged to the superficial area; the former depends upon inducing a condition in which such permeability is deliberately favored.

stration that what here is abnormally developed is but the exaggerated elaboration of possibilities inherent in every human mind. By similar revelations it is discovered that Miss B. had arisen at night and had climbed to the window-sill, in the deep embrasure of a mansard roof, and from this perilous position (which caused intense dizziness as she revived the scene by "crystal gazing") she threw an inkstand into the street below. Sally was able to explain that Miss B., who was probably at the time in a semi-delirious condition, was imagining that she was walking on the seashore, pushing her toes into the carpet as though it were sand. The inkstand was a pebble which she had picked up, and the window-sill a rock which she had climbed in order to toss the stone out into the sea.

It is in accord with the majority of these hysterical transformations that the sensibilities in one state show a deviation by way of loss or restriction from those of another. Sally is affected with a peculiar anæsthesia, that renders her insensible to pressure or pricking or burns, and unable to recognize by the muscular feeling the position in which her arm may have been put. As soon, however, as she is allowed to see what is thus being done, the tactile feelings are reinstated in her consciousness. If a bunch of keys is placed in her hands, she does not recognize what she holds; but if they are jingled, she recognizes the sound and at the same time feels the shape of the keys. It is thus a psychological exclusion of consciousness of sensations which to another phase of consciousness would be wholly present. Sally is vigorous and free from disease, because she is insensitive to the fatigue

and other organic sensations that Miss B. so acutely feels. The most remarkable illustration of this contraction of the field of sensation is the following: The Miss B. of this incident is the individual known as B IV, the personality that reappeared after six years' sleep. While carelessly fingering a chain upon which some rings were strung, the chain broke and some of the rings were lost. Now the other Miss B. (B I) in her uninformed relation to the incident became convinced that all the rings were gone, although Sally, who was well aware of the whole procedure, tried to persuade her otherwise. "'The other two rings are not lost,' said Sally, 'but I can't make her see them. I have put them on her finger, but she won't see them, Dr. Prince; and I have taken her hand and made her take hold of the rings, but she won't feel them. They are round her neck now on a ribbon. I have made her take the rings in her fingers while she is here and I am gone, and I have put them on her finger; but it is no use, she won't see them.'" When Dr. Prince awakened her as B I, he asked her to loosen her collar, and showed her the two rings tied on a ribbon about her neck, but though he passed her fingers over them and clicked the two rings together, and held them before her eyes, she was unable to become aware of their existence. He pulled the ribbon hard enough to jerk her head to one side; though she felt the movement, she regarded the method by which it was accomplished as a mystery. This negative hallucination differs from others that could readily be induced by suggestion only in the fact of its spontaneous origin in a prejudiced conviction. The will to see for this particular range

of objects was in abeyance. Upon the same plane is the consoling action of Sally upon an extremely exciting occasion, when Miss B. had an hallucination in which she saw an announcement of the death of a relative of Dr. Prince which she took to be that of the doctor himself. Sally, becoming alarmed at her condition, scribbled a note for her other self in these words: "Are you mad? Dr. Prince is as much alive as you are. It is his father who is dead."

For the most part, Sally's attitude was that of intense antagonism towards the other personalities, decidedly towards B I, whom she considered as especially created as a victim for her spleen, but with less of glee and with more of fear in regard to B IV, whose thoughts she did not share, and whom she presently found was a serious force to be reckoned with. B IV was equally vindictive against Sally; and as the latter was preparing an autobiography for Dr. Prince's use, B IV retaliated by destroying this document, which action may be interpreted as a resentment on the part of the better organized self that so crude and contradictory a phase of her personality should be allowed this independent expression. Between the two there were endless bickerings, in which Sally was obliged to write her derogatory opinions, while B IV could communicate hers by speaking aloud. It is difficult to realize the antagonisms of this divided household. "There were times when IV and Sally would enter into systematic campaigns of hostilities, each determined to down the other. Then IV would gird on her armor, and set forth resolute, uncompromising, with blood in her eye, determined to suppress Sally for good and all.

She would do her best to destroy everything that her enemy wrote — many a letter to me was destroyed — and to undo everything done. Whatever she discovered Sally was doing, she would reverse. If, for example, she found herself on the way to my house, she would turn about and retrace her steps, or at least would try to do so, for Sally, in her rôle as a subconsciousness, would at once make a dive for the muscular steering-gear, there would be a temporary struggle with arms and legs, a sort of aboulia, and then it usually happened that Sally, victorious, would reverse the machinery and head her again for her destination. At night, too, Sally would have another turn. As fast as IV would get into bed, Sally, coming herself, would get up, and then, changing herself back to IV, the latter would find herself to her disgust out of bed again. And so it went on all night; and if IV got off without the bed and furniture being turned upside down, she was lucky." It was the same tale in regard to all the details of the daily routine. If one of the personalities woke up after the morning bath, another bath had to be taken to satisfy the new arrival. Dressing was an equally uncertain matter, as the apparel that pleased the one was never worn by the other, while it was quite possible that Sally had interfered and had hidden essential articles that neither of the other personalities could find. "One night Sally, to make IV miserable, piled all the furniture, everything movable in the room, upon the bed and then changed herself to IV. But IV foiled her. Instead of putting the room to rights as Sally imagined she would be obliged to do in order to go to bed, she rolled herself in

her steamer rug and slept on the floor. A huge joke on Sally, IV thought, but it was really on Miss Beauchamp; for, instead of waking up in the morning as IV, she woke as Miss Beauchamp, to whose lot it fell to be the drudge and put all the furniture back in place."[1] Even more embarrassing were the social complications, for Sally was sufficient of a personality to make friends on her own account, which friends often proved to be quite distasteful to Miss B, who likewise remained unaware of the previous meetings that had engendered the friendly relation. It is indeed remarkable that so many of these friends failed to suspect the true state of affairs, and were content to consider Miss B. as a peculiar and somewhat moody individual. Yet this impression could not have been conveyed had not the several selves a sufficient concern for their mutual welfare to minimize the incongruities that inevitably arose from the conflicting personalities.

In regard to the occasions that induce the shifting from one personality to another, it may be said that they are themselves quite various, and depend upon the type of instability that prevails at any given moment. When specially susceptible,

[1] It is hardly possible to set forth in this synopsis the differentia of traits that separate the personality of B I and B IV. Dr. Prince has made an exhaustive analysis of these differences that affect the sphere of personal tastes in food, dress, occupations; of moral and mental habits, likes, aversions, facilities, accomplishments; of modes of thought, pursuit of ideals, control of conduct, and the several constituents of character. His analysis covers six pages, and enumerates some sixty points of contrast.

the changes may come many times within the day and even within the hour; and under a favorable mental barometer, the several states may be evoked by appropriate suggestions. The more critical transformations seem trance-like in their onset; and their occasions may be furnished by that underlying similarity of mood reënforced by a sensory excitation, that probably serves in many normal instances to lead a drifting mind in its wayward progress.

An apposite instance is the following: The clock was striking nine as Miss B. was lost in what seems to have been a trance-like abstraction, for it was half-past nine when she again came to herself. The intervening revery was concerned with a girl friend, and also with the incident in her personal life that was intimately connected with her present difficulties. It appeared that originally while in church and while the organ was playing Handel's Hallelujah Chorus, this friend leaned over and told her a bit of news that decidedly shocked her. At this impressionable moment she also smelled the odor of the incense and heard and felt the wind blowing through the open window. Anything that recalls this girl friend, or the scene in the church, or the odor of incense, or the blowing of the wind on her face may in an impressionable moment send her back to this trance-state. On the present occasion it was only necessary to question Miss B. while hypnotized, to determine that at the moment of entering this trance, she was brushing her hair at the open window, when the feeling of the air recalled the original

scene with all its sequences. Naturally, Sally could corroborate the account, and described in her contemptuous manner that Miss B. just dropped back and looked like a fool during her meditation. This emotional basis for an association is a significant factor; it appears in the frequent observations that though the mental content of one personality remains unknown to that which immediately succeeds it, yet the mood of the one, especially when depressed, may persist in a vague, unmotived manner, so that the latter person merely feels sad or irritable without being able to supply a reason for her dejection or spleen.

The nearest approach to the simultaneous appearance of the masquerading personalities — like the meeting of each Antipholus with his double after endless alternate appearances — is that in which B IV was surprised by a peculiar expression of her reflection as she saw it in a mirror. The "thing," as she called the appearance, was indeed Sally; and the dialogue that then ensued, in which Miss B., excited and inquisitive, tried to elicit information of those critical incidents of the past which she had lost, and at last succeeded in inducing her proxy reflection to answer by scribbling notes with a pencil, — all this is significant of a *rapprochement* between the factions engaged in civil strife, and of increasing possibilities of reconstruction.

It has thus been set forth with comprehensive illustrative detail that the life-history of a dissociated mind exhibits in profusion the same comparable types of relation between one phase and another

of its multiple consciousness as obtain in the intercourse between the conscious and subconscious allotments of thought and action in normal as well as in differently constituted abnormal states. All this nicely supports the directive principle that altered personality develops upon a complex synthesis of peculiarly estranged, yet in their segregation functionally organized states. The principle likewise enforces the generalization that all personality — the normal, unified, as well as the abnormal, dissociated type — is in a sense an acquisition and an achievement. The outcome is no more inevitable than is any other aspect of the mental constitution that participates in the organic evolution to which individually and socially our lives are subject. Nature and nurture — inheritance and experience — bring their measure of influence to bear in mutual interplay as cause and effect, to fashion us severally as we are, and to alter our developing selves in their progress through the several ages of man. This emphasis upon the intrinsically formative status of the personal issues of the mental character pervades the scheme of interpretation by which a consistent account of these personal fields of abnormal psychology is to be rendered.

VI

DISINTEGRATING LAPSES OF PERSONALITY

The vicissitudes of the maturing changes of a personal self are likely to develop the most significant as well as the most perplexing varieties of disordered personality. The conception resulting from an analysis of the mental abnormalities thus conditioned needs to be completed by a study of allied forms of impairment of different origin and status. Anomalies of evolution find their complement in accentuated decay, in accidental arrest, and — most instructively for the interests of the subconscious — in the temporary disqualification of function sequent to violent brain disturbance. Personality may be marred in the making; it may also fail to weather the storms of life unscathed, and come to port at almost any stage of its journeyings to repair its damages, if may be, or to continue its career in less enterprising service.

While instances of altered personality are inevitably too individual in their plot to be readily comparable, they become more so if we consider them in groups with reference to the participation in their nature, of the developmental and the arrestive factors. In the first group as already con-

sidered, disordered personality becomes an expression of an abnormal psychic evolution of the self. It is a developmental defect through which the normal issue of a consistent individuality fails in some measure and in some aspects to be achieved; and such failure finds a favoring condition in the normal but profound changes of adolescence, and is grafted most propitiously upon the instability of the hysterical temperament. In the second group, the element of a violent psychic shock, the uprooting of the personal foundations, becomes determinative; and we have a reduction in rank as well as a contraction of the field of mental enterprise. As soon, however, as we apply this distinction to the setting of actual cases, we appreciate that many are likely to occupy a transitional status; and that the two factors may participate jointly in the origin and the further development of the abnormal career. It has already been indicated that in irregularities of maturing genesis there are apt to be moments of mental shock through which the cleft of personality was originally brought into being, and which again, as they were recalled by the organic association, reinstated the disintegrating procedure. Furthermore, the very liability to respond with extreme and morbid intensity — and in these instances to lose the self-orientation — through exposure to such disconcerting assaults upon the personal emotions and

even to slighter disturbances, is a typical trait of hysteria; while the lessened susceptibility to such accident marks the path of recovery from the mental frailty. On the other hand, it will appear that cases of curtailment of function sufficiently comprehensive to rank as alterations of personality also exhibit many of the characteristic impairments of dissociated-mindedness. With permissible neglect of their diversity, the two differently conditioned and differently developing types of instability may be brought under a unified scheme of interpretation; and both are naturally regarded as expressive of unknown and yet specific impairment of correlated functions. It will be desirable to consider at this juncture the cases of transitional status in which both motives are present, though not equally effective; and in which appear states of comparable scope and stability, yet of contrasted character and sundered relations, presenting fluctuations between the two in fairly extensive as well as intensive waves of mental oscillation.

The hysterical vicissitudes might readily furnish occasion for such comprehensive periodicity. The irritability might be cumulative in nature, awaiting only a moderately disturbing moment to turn the balance from one division of the personal synthesis to the other; or again, any violent convulsion might act with the suddenness of a paralytic stroke to overturn the impaired equili-

brium. The accidents of maturing instability, equally with a single or recurrent shock to a normal or to an especially vulnerable organization, might thus be responsible for a fairly complete disqualification of a self. The nature of the mental disabilities that such dissociative shock may entail will be best appreciated from a survey of a group of instances. In selecting these "transitional" illustrations, it is accordingly necessary at once to regard their bearing upon their mode of origin,[1] upon the type of alteration or alternation of personality that ensues, and in turn upon the manner of disqualified function that they engender.

An apposite case in several respects is the frequently cited one of Felida X., dating back to 1858. As an adolescent she experienced much ill health, and displayed complex hysterical symptoms. She developed a liability to lapse into a condition markedly contrasted with her usual state. From girlhood up she was occupied as a seamstress; and it frequently occurred, when thus engaged, that the change of state came upon her. A sudden pain in the temple was followed by the falling forward of her head, and a lapse into a deep sleep, — originally occupying some minutes, but in later years only a few seconds, — from which she came

[1] It is unfortunately true that the descriptions of many instances instructive in other respects, afford no sufficient insight into the genesis of the disorder. Yet it seems worth while to include such cases for the illumination they afford of specific relations pertinent to the general point of view.

to as a different person. Her former depression and weakness had given way to gayety of manner and action. Her voice was now strong as she sang merrily at her work; she no longer complained of troublesome symptoms, walked about briskly, attended to her household duties, visited with the neighbors, and presented the appearance of a healthy young woman. By a similar and equally sudden change the old condition of depressed invalidism returned. Such transformation did not interfere with the continuance of her routine occupations, though it left her without knowledge of what might have happened in the other state. The susceptibility to such alternations varied with the general health, and for a period of three years remained absent. The gay, active periods gradually lengthened; and after seventeen years of such fluctuations, these constituted her almost permanent condition.

The exclusion from the memory of what was, at the time, the dominant state, of the personal doings of the altered condition, may be thus illustrated: On one occasion, while in a carriage returning from a funeral, the change of state came on; she was naturally at a loss to know why she was in a carriage with companions dressed in mourning, or who might be the person whose obsequies she had attended. She was sufficiently accustomed to such situations to take the matter calmly, and to introduce leading questions from which, by shrewd inference, she could piece together the state of affairs without exposing her mental idiosyncrasy. She provided against any interference with her work from such interruptions by writing down instructions concerning

her sewing commissions, by means of which the ensuing personality would be informed of what had been planned and what remained to be done.

While Felida was accustomed to regard whatever state was upon her as the normal, and spoke of the complementary period as the "other," the evidence is fairly clear that the states were not of equal scope or status. During the gay, altered period the memory persisted not only of what was done in like preceding periods, but as well of the whole of her life; while the dejected conditions were wholly deprived of any knowledge of what occurred in the gay intervals. It is also clear that the routine facilities and the acquisitions of her trade as well as of her mode of life were common property of the two. The so-called secondary or derivative state may thus be regarded as one in which there is a release of the hysterical obsessions of the (at first) dominant personality. During such release, the consciousness is superior in content by reason of its inclusion of the personal memories of the other state; and it is this more comprehensive condition that, at first appearing as an interruption or lapse, eventually becomes permanently established, though with sporadic reversions to the hysterical state of morbid dejection. The shifting status of the two personalities requires for its expression fairly complex formulæ, in which the terms have variable values. There is likewise evidence of an occasional condition — the transitional sleep may be one of these — in which the two personalities stand in conjunction. The tentative interpretation that the records permit, enrolls the instance as one of al-

ternation of mental states contrasted emotionally, with exclusion (though not reciprocal) of personal memories, motives, and actions, and with gradual dominance of the interrupted periods through their superior and more stable synthesis.

A comparable instance is that of Mary Reynolds. The first transition from a normal to an abnormal condition seems to have occurred during an unusually prolonged sleep. From this she awoke as a complete stranger to her family and to her surroundings. Her entire mental acquisitions had apparently disappeared. Yet along with an infantile lack of acquaintance with the world of things, she retained a mature capacity for entering into the outdoor life of her environment, then the American frontier. Her reëducation had to be undertaken from the beginning: reading, writing, the names of the commonest objects, what they were for and how they were used, who were the members of the family and what were their relations to her, and all the familiar household occupations of the daily routine. Her disposition had equally changed from depression to good cheer, and from a retiring to a very sociable nature. In this second state, her prevailing passion was to ride or walk through the trackless forest, knowing no fear of the wild animals there to be met. The bears, she insisted, were nothing more than black hogs, and on one occasion told of an encounter with one of them which she had attacked with nothing more than a stick. This altered condition continued for five weeks, when again, after a long sleep, she awoke as her true self, with the intervening period entirely forgotten, surprised at the changed aspect of nature, with no knowledge of

her dangerous rambles in the woods, and with complete assumption of her old disposition and of her place in the family life. After some weeks the altered condition came on, bringing with it a memory of the previous similar period, and with complete oblivion of her normal life. These alternations took place at intervals of varying length for about fifteen years, and then ceased, leaving her permanently in the second state, in which, according to the account, she passed as many as twenty-five years of her life. She was able to occupy a useful position as a school-teacher, and seemed to have retained in later years only a dim recollection of her early abnormalities. The imperfect record of this instance prevents anything more than a general interpretation. It may unquestionably be classified as belonging to the type of alternating personality with gradual recedence of the one state in favor of the other, but with no clear determination of the precise relations between the two.[1]

Alternating conditions of similar status occur more frequently as episodes in the history of mentally abnormal individuals than as the central feature of the altered personality. There is the case of Emile X., who exhibited such obliterating transformations along with other stigmata of a nervously unstable system. The type of his infirmity may be thus illustrated: On September 23, 1888, he had a quarrel with his father, the agitation acting as a stimulus to induce the altered

[1] The imperfections of this narrative become intelligible when it is understood that the case (dating from 1811) has been largely reported indirectly, the final record being contributed by the expert hand of Dr. Weir Mitchell.

state. He came to himself again, three weeks later, in a distant village, and knew nothing of his actions in the interval. Later investigation proved that during this time he had paid a visit to his uncle (at whose home he had destroyed objects and manuscripts of value), had contracted a debt of five hundred francs, and had been tried before a court and found guilty of larceny. Or again: On the 11th of May, 1889, he breakfasted at a restaurant in Paris, and two days later found himself at Troyes with the interval a complete blank, and with the immediate discovery that he had lost his overcoat, in which was his pocket-book containing 226 francs. Interesting in this case is the fact that when hypnosis was induced, the state that ensued was sufficiently allied to the normal to reproduce the dissociated memories. This phase of his personality was able to give a detailed account of the events after the breakfast at Paris until his awakening at Troyes: the ride in the cab to the depot, the journey to Troyes, the hotel in which he lodged, and the number of the room he occupied; his subsequent call upon a merchant of the town, his breakfast with the same the next morning, his approaching indisposition and appeal to a policeman, who took him to the central bureau and then to the hospital where he came to himself. In pursuance of his hypnotic revelation, a note was addressed to the hotel at Troyes that resulted in the return of his overcoat with the money intact. Of all this his conscious memory could give no account whatever.

An instructive variation of this type of disorder is presented by the case of Louis V., a lad of seventeen, of neuropathic heredity, and whose

malady was diagnosed as hysterical epilepsy. A vagrant and a thief, he was sent to a reformatory, where he was put to work in the fields. While thus occupied he was badly frightened, though not hurt, by a snake which he grasped among a bundle of twigs. He fell into repeated attacks, in which his legs became paralyzed; and on this account he was transferred to an asylum. There he was reported as an amiable, straightforward lad, appreciative of the care bestowed upon him. He told of his thefts and his mode of life, of which he seemed much ashamed, and resolved to seek an honest living in the future. He was put to work in the tailor shop, and in two months' time learned to sew fairly well. Then came a further attack, lasting fifty hours, followed by a sleep, from which he awoke in his old personality. He believed himself to be at the reformatory, demanded his clothes, and managed to dress himself and to walk with some difficulty, though the paralysis had disappeared. He knew nothing of his surroundings, his recollection going back to the moment of being badly frightened by a snake. He did not recognize the tailor shop in which he had worked, handled a needle as a novice, and scoffed at the notion that the work upon which his altered self had been engaged had been done by him. With this change the old character returned; he was rude, selfish, gluttonous, and inclined to theft. He succeeded in stealing 60 francs and in making his escape, but was caught and brought back after a violent struggle.

While these several transitions repeatedly occurred, it appears from the later history of the case that the systems of dissociation themselves

varied with the progress of the malady. As many as six states are described, each of which seems to revive a different period of his life history, to exhibit different groupings of personal traits, and a distinctive type of nervous impairment. When the right side of his body is afflicted with partial anæsthesia and partial paralysis, his character is mainly that of the boorish vagrant, though his memories may be those of any one of several stages of his career during which what may be regarded as his normal state persisted; when the above symptoms are transferred to his left side, he becomes twenty-one years of age, is correct in speech and bearing, and has forgotten many of the periods of his checkered life; when all the nervous symptoms disappear, he may become either a boy of fourteen and recall for the most part the experiences of his boyhood, or a young man of twenty-two, at the period of his entry into the Marine Corps, and displaying speech and behavior proper to that period, yet without knowledge of the incidents of the reformatory and the asylum, and consequently with no acquaintance with the tailoring trade there acquired. Under hypnotic suggestion, one or another of these partial personalities may be aroused; and with the personality come also the defects of movement and sensation (or their absence) that characterized the actual onset of that state. Disregarding the more peculiar features of the case, the instability and recurrence of variant states are clearly exhibited, and the special connection of each with the impairments of a nervous system, functionally disorganized in a specific direction, is well demonstrated.

While we can but uncertainly conjecture what may be the intrinsic mode of operation of the shock, physical or mental, that entails the peculiar disintegration of the most highly elaborated brain-functions of which the restriction of personality is the outer expression, we know that such accidents do at times have this consequence. It would seem plausible to suppose that such injuries, like the sudden torrents that inundate a valley, would bring ruin and destruction in their path; and we should have only the incoherence and the imbecility of a wrecked intelligence to contemplate. But occasionally the mental freshet seems merely to loosen the structure from its original foundations, to whirl it downstream with but slight damage, and to leave it temporarily anchored in some seemingly chance situation, to find there a new service in an alien land. We are then tempted to suspect some unobserved liability to mental dissociation, and to regard such disposition as partly responsible for the peculiar issue. We suspect this the more readily, when the sudden alteration comes without physical injury, seemingly as the result of some deep internal eruption of which, even in the calm after the passing storm, the victim can give no satisfactory account. At times corroborative evidence of such psychic frailty may be gathered; but the cases are equally common in which the change of

personality must be accepted without explanation, — a destructive bolt from a clear sky.

To this class, and embodying a possible tendency towards nervous instability, belongs the case of the Rev. Ansel Bourne, recounted by Professor James. Mr. Bourne, an itinerant preacher, was described as a firm, self-reliant, upright man. On January 17, 1887, he drew $558 from a bank in Providence, R. I., with which to pay for a purchase of land; he actually paid certain bills and entered a Pawtucket horse-car; and from there on his memory ceases. He was advertised as lost; and the police sought in vain to locate him. "On the morning of March 14th, however, at Norristown, Pennsylvania, a man calling himself A. J. Brown, who had rented a small shop six weeks previously, stocked it with stationery, confectionery, fruit and small articles, and carried on his quiet trade without seeming to any one unnatural or eccentric, woke up in a fright and called in the people of the house to tell him where he was." He called himself Ansel Bourne, went back at once to the transactions at Providence as the last event he could recall, and declined to believe that two months had elapsed since his coming to Norristown. This change of personality never recurred; and he continued his normal life with no intimate knowledge of his wayward adventure. During the "Brown" period, the personality in charge was sufficiently self-reliant to conduct the small business, to go to Philadelphia to replenish the stock, to prepare the meals and attend to the housekeeping, to go to church regularly, and to live a well-ordered but

extremely simple and retired life. One incident only is recorded proving the persistence of the "Bourne" memories: on one occasion, at a prayer-meeting, he made an address in which he related events that he had witnessed as Mr. Bourne. It was three years later that the attempt was made to arouse the "Brown" memory during hypnosis. When hypnotized, he at once became Mr. Brown, assumed the facial expression which he then had worn, said he had never heard of Ansel Bourne, did not recognize Mrs. Bourne, and was able to recount details of his life as a shopkeeper.

What is notable in this incident is not only its single occurrence, but also that the personality suddenly called into being is only a limited, more simply functioning individual than the normal; likewise that the chasm between the two is, and remains, quite pronounced. The objective details — the wandering from home and the uncongenial life of the shop — cannot be further accounted for; all that can be said psychologically is that the disqualified personality becomes, in Professor James's phrase, "nothing but a rather shrunken, dejected, and amnesic extract of Mr. Bourne himself."

Somewhat similar is the case of Mr. S. recorded by Dr. Dana. Here the occasioning shock acted directly upon the nervous centres, being due to the escape of gas in the room during the night. Mr. S. was found completely unconscious, and with difficulty was restored to life. He remained delirious and incoherent for about a week, and was then free from any signs of mania; but his personality had altered and much of his memory

acquisitions were lost. His conversation indicated that he did not know who and where he was, and that the knowledge of his past life was meagre. His vocabulary was limited; he could understand only the simplest language, and seemed ignorant of the names and uses of common things; yet his habits and impulses served him well, and he was able to conduct himself properly and neatly in the affairs of the toilet or at the table. Though he could not read or write, he acquired knowledge very quickly, and showed equal facility in learning to play billiards, or to carve in wood, or to play the banjo. He was described as a person with an active brain set down in a new world, with everything to learn. He was aware that he was in a strange condition and was anxious to be himself. Though he recognized no one, not even his *fiancée*, he showed great fondness for her company; and it was consequent to an interview with her, just three months later, that he experienced a peculiar prickling and numb sensation in his head, fell asleep, and woke up perfectly normal, but with the intervening period an absolute blank. He at once resumed his old life, and has continued perfectly well ever since.

A *résumé* of still another instance will illustrate the several points of community as well as of diversity. The individual in question seems to have been a man of good health, free from any apparent nervous disability, a tinsmith by trade, living in Philadelphia. On a Sunday in November he had been enjoying the day with his family, when he went indoors, put on his business clothes, said he was going out for a short walk, and disappeared. All attempts to find him

proved unsuccessful; and his wife and family sold the property and moved to Chicago. Two years later, in one of the Southern States, a man working with his companions pressed his hand to his head in a bewildered way, shouting: "My God! where am I? How did I come here? This is n't my shop. Where am I? What does it mean?" During all this time he had earned his living as a tinner, had assumed another name, and had passed as a perfectly normal man. His memory went back at once to that fateful Sunday. He found and rejoined his family, and was resigned to regard the episode as a mysterious gap in his life's continuity.

What these instances mainly disclose is the possibility of violent eruptions that sever the continuity of an apparently well-organized mental life, that close the book of personal experience on one page and open it again with seeming caprice upon an altered tale, amid other scenes, with other motives and with transformed characters. Yet individuals thus wandering literally in actual distance, and psychologically in mental disposition, from the native heath, manifestly take with them some selective equipment of their acquisitions and training. The tinsmith remains a tinsmith; and though the itinerant preacher becomes a shopkeeper, doubtless in the latter capacity he displays the acquired facilities of his less professional accomplishments. It seems far more rational to regard the mental

rift as erupting no new-born capacities, but rather as throwing the individual back upon the intimate, ingrained, even though suppressed or not consciously fostered resources of his experienced self. If the shock is more fundamentally upsetting, one might expect that the impairment of the highest coördinating, self-orienting functions would reduce a being with full and free initiative of plan and action to a state of more or less complex automatism. The extent to which this element, so conspicuous in the various phases of somnambulism, is present in the dissociation of altered personality, is not easy to determine. It is clearly not warranted to regard the vagrant personalities just instanced as passing the abnormal period in a prolonged somnambulism; but it is appropriate to indicate that this type of disordering of the personal self does entail a more or less marked curtailment in scope, and degradation in complexity, of the mental powers. The altered personality becomes an enfeebled, bereft, disabled personality, yet with some decided variability in the type of disqualification that prevails.

There is an instructive case of an altered condition sequent to brain injury, that sets forth the extreme possibilities of the automatism that is the expression of a reduced personality. The case is that of a soldier who in the Franco-Prussian war received a disabling wound in the head. The injury

to the brain induced a temporary paralysis of the right leg; but this was recovered from, and left only a recurrent liability to somewhat prolonged lapses of a trance-like nature. It may be mentioned that this functional trouble did not interfere with the earning of his living, at times as a clerk, and occasionally as a singer in the Parisian cafés. The somnambulistic state into which he fell offered a peculiar complex of limitations. His senses seemed no longer to serve him except in the direction of his automatic concerns. He saw only sufficiently to avoid obstacles, apparently without recognizing their nature. Smell and taste were so reduced that he ate and drank quite mechanically, and did not reject disagreeable food; he was deaf to ordinary noises, and could be reached only through the sense of touch. Through this sense his actions could be suggestively directed by the nature of the objects thus introduced to his notice. While in this condition, he was possessed by the impulse to appropriate any small objects with which his hand came in contact, and exercised this propensity in thoughtless, mechanical fashion. In brief, his behavior was that of an automaton, progressively inspired by a series of simple intentions.

On one occasion, while walking in his usual abstracted manner along a corridor, he came at the end of it to a closed door. This he attempted to open by various devices, even trying to break the lock, then apparently gave it up and turned in another direction. At this juncture a bunch of keys was placed before his eyes, but he did not see them; they were rattled, but he did not hear them; when placed in his hand, he immediately

felt them, tried one after another, found the right one, and opened the door. Entering the adjoining room, he went to a table, passed his hands over it, came in contact with the knob of a drawer, opened it, and here touched a pen. The pen seemed to awake the idea of writing, whereupon he took paper and ink, found a chair, sat down, and began to write a letter. He wrote in his ordinary way, and showed the use of the sense of sight; he kept on writing when an obstacle was placed between his eyes and the paper, though under these conditions the writing became illegible. When water was substituted for ink, he was puzzled and seemed unable to proceed. It was also possible quickly to pull away, one by one, the sheets upon which he was writing, so that at the end he had spread a few sentences over parts of five different sheets of paper. After signing his name on the last sheet, and apparently oblivious of the disappearance of the others, he went through the movements of reading over again what he had written, putting in commas and crossings and letters on the now blank page, to correspond with the desired positions of these corrections on the sheets upon which the words had been written.

Or, again, while wandering in the garden, he took out his cigarette case, opened it, found paper and tobacco, and skillfully rolled a cigarette. He similarly found his matches, lit the cigarette, stamped out the match, and smoked as he walked. When he wished a second cigarette, his attendant took away the tobacco-pouch, whereupon he searched in all his pockets, and seemed surprised not to find it; yet he did not see it when it was held before him, and it had again to be placed in

his hand. When he struck a second match, it was blown out by the attendant and another burning match offered him; but the other match he did not see, even when it singed his eyelashes. In similar automatic mimicry he could be induced to go through some of his performances as a singer in the cafés or as a soldier in the army. With the same suddenness with which this state ensued, it passed off and left him perfectly normal with full command of his faculties. In this instance we have a normally functioning personality interrupted by recurrent phases of a decidedly handicapped personality, capable only of a limited machine-like life, similar to that observable in the brief moments of ordinary somnambulism.

In the instance just cited, the recurrent states of automatism may be regarded as a by-product of functional brain impairment. It seems consistent with our knowledge of nervous functions to find such a degradation in initiative and scope of mental behavior as a possible sequence of disorder in the finer quality of the brain's reactions. The loss of the more consciously and deliberately acquired achievements, along with the retention of ingrained habits and automatic responses, presents a line of cleavage that frequently enters into the formation of altered personality. We should indeed be inclined to rate the seriousness of such a functional loss by the degree to which the field of automatic faculties was invaded. Most instructive in this respect, though presenting a complex status

in regard to the temporary mental limitations that ensued, is the instance which may properly be reserved to close the series.

The subject of the case is the Rev. Mr. Hanna.[1] The sudden change of his mental condition came upon him in full health, as the result of an accident while driving on the evening of April 15, 1887. After a period of unconsciousness during which he was carried indoors and put to bed, he opened his eyes with a dazed, inquiring expression. Owing to a misunderstanding of his condition, the attendants bound Mr. Hanna, to which proceeding he made vigorous objection. In this struggle under an exciting emotion he made good use of his strength and gave evidence of a considerable

[1] The record will be found in the volume by Dr. Sidis and Dr. Goodhart, cited below. It is notable not only by reason of the careful investigation that was expended upon it, but as well for the success with which the pursuit of the psychological method of diagnosis and treatment led to a reintegration of the personality. The record gains in value through the coöperation of the patient, whose mental training enabled him to add an introspective account, written after complete recovery, recording his own analysis of his mental states during the disintegrated period. Abridged accounts of the several cases cited may be found as follows: in Binet: *Alterations of Personality*, the case of Felida X. (pages 6–20); of Louis V. (pages 25–32); of Emil X. (pages 32–36); and of Mesnet's soldier (pages 42–64). In Sidis and Goodhart: *Multiple Personality*, the case of Mr. Hanna (pages 83–229); of Mesnet's soldier (pages 310–315); the case of Mr. S. (pages 368–373); of the tinsmith (pages 365–368); and of Louis V. (pages 427–434). In James's *Psychology*, the case of Mary Reynolds (vol. i, pages 381–384); and of Ansel Bourne (pages 391–393). Additional cases and original sources may be found in these references.

measure of motor control. As soon as a careful investigation of his condition was possible, it was determined that he had apparently lost the complete range of his knowledge and acquisitions, not only of his acquaintance with the simplest objects, but even with the meaning of the elementary organic sensations of his own body. His condition was described as akin to that of a new-born infant; and the stages of his relearning offered close analogies to the progress of early infancy. Though suffering from hunger, he was unable to interpret the sensation or to appreciate the method whereby to satisfy it. Food had to be forced into his mouth, and only when reflexly swallowed, did he appreciate its purpose. His eyes had to learn the quality of size, and distance, and color. His ears were affected by sounds which he referred to the vocal apparatus of the speaker, and which he proceeded to imitate, but of the existence of speech, or of its meaning, he was entirely ignorant. He seemed equally to have to discover the power which he exercised over his own muscles, so as to distinguish between his own movements and those of other persons. Naturally, his interpretations were crude and often erroneous. The difference between men and women and children, between his family and strangers, had all to be learned anew. His surroundings were utilized in the manner of the simplest object lessons, to teach him the rudimentary nature and uses of what a one-year-old child has already acquired in considerable measure. Thus, when looking at a distant tree through a window, he attempted to grasp the tree and knew nothing of the nature of the object that attracted him. He mistook a piece

of soap for food and tried to eat it. Upon his first sight of a man riding a bicycle, he regarded the combined object as a new variety of man. With the first learning of words, his mind acquired the material necessary to its elaboration, and developed with such remarkable rapidity as to bring complete conviction that the reacquisition was proceeding upon the basis of the benumbed but not destroyed facilities of his normal self. He rarely forgot anything thus reacquired; and in a few weeks was able to read and write, though slowly and with effort, and to use a considerable vocabulary, though with occasional gaps and circumlocutions to eke out his enfeebled phraseology.

In illustration of the reappearance of his natural emotional traits, it may be mentioned that Mr. Hanna had at one time pursued architectural studies, had a decided æsthetic appreciation, and was clever with his hands. In the first weeks of his recovery, he showed unusual responsiveness to the beauties of nature, and a general appreciation of matters of taste. He had likewise been fond of music, and in his new condition learned the banjo with remarkable ease. During the period of his reëducation he was gradually brought to a state in which he could enter freely into general conversation, could discuss his own condition, and resume anew the relations with his family and with his *fiancée*. Yet he had no knowledge of his past career, which had been a somewhat versatile one, including his early college days and his subsequent architectural training, then his change to the theological seminary, his active charge of a congregation, and his practical interest in his ministerial concerns. The old personality, so far as

any conscious awareness thereof was involved, had disappeared; and Mr. Hanna was, during the week subsequent to the accident, substantially as a wholly uninformed individual,—his mind the *tabula rasa* of the philosophers,—who had come into being on the night of April 15.

The method pursued to restore Mr. Hanna to his original condition was to overwhelm him with a great mass of impressions, presumably familiar to his early life, to bombard his senses with experiences that might arouse the latent vestiges of his buried self, and thus gradually to bring back by vigorous subconscious stimulation what his conscious effort could not command. It may be anticipated that the stages by which this result was accomplished proved to be, first, a spontaneous but brief recurrence of the original condition, followed by a lapse back to the impaired state; then more frequent and longer maintained reversions to the normal; finally, conflict between the two states and their fusion. For a time the two conditions remained independent, neither knowing aught of the other, and with the subject at the mercy of wholly unexpected alternations. By special effort and with the assistance of certain promptings, the two states were then brought in a measure face to face, so that it became proper to speak of this newer, more complete condition as a period of contest, in which the individual was called upon either to choose between the two, or, if that might be, to accept both as portions of a single life, to fit them together with such measure of gap as was inevitable, and thus reconciled, to continue the normal life.

The first step in this consummation was taken

in early June, when Mr. Hanna went with his brother and his physicians to New York city. His first evening there (June 8) was spent at a popular restaurant, amid bright surroundings and cheerful talk, all of which bewildered the new Mr. Hanna, who naturally had met with no experiences of this nature. Awakening from a few hours of sleep, not easily procured after so exciting an evening, Mr. Hanna called his brother at three in the morning, wanted to know where he was, and upon being told that he was in New York, persisted in knowing why he was there. His brother returned question with question, and so ascertained that Mr. Hanna was awakening from the period of the drive of April 15. He related what he did on that evening up to the point of the accident; he even recalled a humorous ode that one of the family had written on that day. He remembered his college life, but became impatient of all this questioning, and persisted in knowing why he was in New York. His brother, wishing to light the gas, asked him where he had put the matches; but as these had been bestowed by the other Mr. Hanna, the present Mr. Hanna did not know. The doctors, who at this stage entered the room, were naturally strangers to him; and he refused to believe that he had known them for weeks, thinking the whole affair a joke perpetrated by his brother. He evidently knew nothing of the intervening weeks, looked about the room in the manner of one just entering, and examined objects as though encountering them for the first time. In the midst of the conversation he suddenly exclaimed, "What a funny taste in my mouth; you have been feeding

me on tobacco." (He had been induced to smoke a cigarette the evening before, a custom that the original Mr. Hanna had entirely given up.) He said that he felt hazy like Rip Van Winkle, and as if recovering from the fall of "last Thursday." The state lasted for about three quarters of an hour, whereupon Mr. Hanna fell asleep, and awoke at nine in the morning, presenting again, to the surprise of his physicians, the Mr. Hanna of the reacquired state. He knew nothing of the night's adventure after his reading at night and his placing the matches on the mantel. When the name of Rip Van Winkle was used, he did not know what it meant, but thought it might be the name of a hotel.

As already indicated, the lapses back to the primary condition occurred with greater frequency, and their occurrence was continually stimulated by the deluge of experiences from the life that was presumably familiar to the older self. He had to be told sufficient of his doings in the one condition to enable him to orientate himself with his surroundings; and the two personalities began thus to be more and more aware of their own alternation. A new condition, which was called the "complete" state, at times came on spontaneously, and seemed more like a state of arrest in which all functions were in abeyance, and in which Mr. Hanna, according to his later confessions, was busy with the puzzling perplexities of his inner life. The conflict of the two gave rise to a painful sense of loss and confusion, underlying which was the intense attempt to choose between the two personalities, or by effort of the will to combine them into one. It was six months after

the original attack that Mr. Hanna's personal stability had been sufficiently restored to enable him to write his autobiography, by which the essential features of the account were verified.

A single passage from this interesting document may be cited to show the nature of this struggle for a unified life. "In the primary state I found myself making thoughtlessly a resolution that on again awakening in the secondary state I would not be alarmed at the change; but of course, at the next change, there was no memory of the resolution, and consequently, distress was felt. While in the one state, I was informed of my experiences in the other, so that I knew in an indirect way the state of things. It was thus that in each state I came to a determination to assist the scientists in effecting a cure. Yet as each resolution was not known to the other state, there was not the necessary harmony of action. One resolution was that while in the primary state an effort would be made by me to remain awake at all hazards day and night until a continuance in that state seemed probable. The other resolution made in the secondary state was to cling to the facts of that state and that life with a grip of steel, yet to allow the passing into what the doctors call the intermediary state, when they would be able to give me the facts of the other life while I was holding to the present also." After describing the intensity of the effort to remain awake while in the primary state and his occasional lapses to clouded consciousness, he continues: "Suddenly there was a glimpse of the secondary life, only a glimpse, it is true, yet a revelation of infinite wonder as being the first

real insight into one state from the other. Instantly the thought came, 'What is the use of enduring this severe struggle when invited into that attractive life, the secondary state?' This statement was not thus carefully formulated, but that was the impulse of the moment, the feeling was just to that effect. But saying mentally again, 'What is the use?' there was a letting go, and the primary life was again lost." The more difficult struggle was to induce in the secondary state a revival of the primary. Here a persistent plying with questions and an insistence upon the facts of the other state was the method pursued. "I felt quite vexed at what seemed the obstinacy of the doctors, yet was coming more and more to feel the force of their statements. Yet even now only the first position was gained in the conflict, for while both lives were presented to the mind, where was the possibility of combining them? And had I not lived and felt each life? Yet how could one person live and feel both lives? Here was a critical point. But the doctors persisted they were both *my* lives, and indeed I knew each one was, though it is impossible to make two men and make them both into one. But the lives were constantly becoming more and more personal, until at last, by a deliberate, voluntary act, the two were seized, and have both remained for half a year to the present date, though for some time after the recovery, it was difficult to dovetail together the detached portions of each life so as to present a continuous history."

In conformity with our previous analyses, it will be well to give evidence of the submerged presence during the period of recovery, of the

subconscious registry of the primary self. In the case of Mr. Hanna, the evidence is particularly convincing, because it appears, at least partly, in the spontaneity of dream-life. During the weeks of his reëducation, Mr. Hanna was able to describe two kinds of dreams; the one weak, difficult to recall, while the other, the "clear picture-dreams," as he called them, are vivid and detailed with unusual precision. These vivid dreams were really recollections of the forgotten life, though Mr. Hanna naturally did not recognize them as such. In one of these he described the scene as placed at a railway station. A man stood there, who, by some peculiar knowledge, he knew was named Bustler. He was tall, not stout, and had on a black coat rounded in front. The man said to Mr. Hanna, "I thank you for helping me yesterday," — a remark interpreted to refer to his assistance at the church service. Then the man Bustler disappeared, and the dreamer saw a square house with the letters N-E-W-B-O-S-T-O-N-J-U-N-C on it. These letters, Mr. Hanna, in telling the dream, did not pronounce as words, and could attach no meaning to them. He also described in his dream a scene in which he saw a horse with long ears and a tail like a cow (a mule), and, in the background, peculiar buildings, and black mounds, — all of which were scenes from his early life in the coal district in Pennsylvania. There were still other types of intrusions from the lost experiences that presented themselves at times of deep absorption, and occasionally by chance association, all of which gave evidence that Mr. Hanna occasionally lapsed into an intermediate condition, in which some measure of intercourse of each condition with the other

was momentarily, yet confusedly, possible. Such fragmentary enlightenment was in marked contrast with the sudden and complete recall of his normal experiences that occurred with the first reappearance of the old self during the night of June 8. The standard relations, both of alternation, of possible fusion, of conflict, and of casual intercourse, that have been emphasized as significant for comprehension of altered personality are peculiarly well exhibited in this instructive case; while the value thereof is enhanced by the normality and unpreparedness of the subject for any such transformation.

The general impression that emerges from the survey of disordered personality is complex because of the inherent intricacy of the system of phenomena that it significantly reflects. Yet complexity need not entail confusion or obscurity. Two distinctive trends pervade the elaborate types of disorganization; and their points of community and contrast are most practically appreciated in the light of such actual instances as have been reviewed. What is especially pertinent at this juncture is to indicate the bearing of these types of functional derangement upon the subconscious procedures characteristic of the abnormal mental life. The genetic "fault" — to use the geological term — that converts what normally would be a unified, however complex a structure, into several closely related groupings of strata, with a more or less deep cleft between them, sets the

problem of the origin as well as of the manner of deviation of the phenomenon from the standard relations. The interpretation here proposed places this origin in the subconscious formations of the mental structure. It sets forth that the relinquishment by the dominant self of any decided measure of its sovereignty may assume the character of the secession of organized activities from what up to the moment of disruption was an originally united state. It finds the possibility for such collective desertion and its potential synthesis into disturbing if not usurping upheavals, in a temperamental disposition that offers weak resistance to the internal dissensions which the complexity of the inner life prepares. The interpretation must be shaped to recognize the potent instrumentality of the mental shock, that at times seems only the spark to light the train that threatens the undermined citadel and shakes it from its loosened foundations, at times comes as a bombardment from without, severe enough to wreck any structure built to withstand only the ordinary vicissitudes of varying fortune. It thus recognizes a constitutional instability that finds expression largely in terms of the disturbed psychological intercourse between the formative strata of normal personality; and it recognizes as a coöperative occasioning factor the direct assault upon the nervous substrata of the inner life. It finds evi-

dences of the elaboration of these influences not alone in the genesis of altered personality, but even more significantly, in the type of disorder and disqualification that ensues. There is the comprehensive and distinctive mass of evidence that the altered self enters into so peculiar a type of suppressed, circuitous, and evasive intercourse with its normal counterpart as to require the formulation of dissociated-mindedness as a constituent phase of the mental procedure, — a conception that likewise presents certain alliances of the seceding personalities as syntheses of such dissociated tendencies. There is, again, the dethronement of psychic autocracy that appears as an enfeebled rule over a shrunken domain. Such impairment in turn suggests (though with no well-defined correlation between the disaster to the nervous system and the resulting incapacity or segregation) a similar relationship between the formerly integral and the now disintegrated realms of the mental kingdom, as obtains between the several conflicting selves in the warped growth of an abnormally maturing nature. It is accordingly through the liability on the part of the unsettlement of the personal household — when the disturbance assumes this peculiar type of invasion of the mental hearth — to bring to the surface the disallowed phases of its interests and activities ; and again through the liability on the

part of the debasement of function to throw the individual back upon the deeper, less conscious acquisitions of his complex mentality, that disorders of personality come to be expressive of abnormal manifestations of the subconscious.

In looking backward over the abnormal domain, the zigzag route of our journey takes on a greater conformity to a methodical enterprise than was possible for the traveler to appreciate while *en route*. There is, indeed, a peculiar temptation, when prospecting in these imperfectly charted sections of the psychological forest, not only to lose one's way altogether, but especially to fail to see the woods for the trees. If the clearings that have been made serve in some measure as vantage-grounds for a wider outlook, and the paths that have been blazed from one to the other afford general though defective topographical data, the note-books of the expedition should serve some more systematic purpose than that of an impressionistic record of interesting details. Formulæ of origin, relations of dependence, types of structure, trends of classification, lines of deviation, should appear as partial answers to the problems that prompted the investigation, and that increased in complexity with progressive insight. In such an inquiry, the ability to propose the right questions and to shape them favorably

to their solution, is in itself no unworthy achievement. The advance of psychological comprehension is as significantly reflected in the altered attitudes towards what is regarded as important, as in the opening of new quarries of information. This is peculiarly the case in the abnormal ranges of psychological interpretation. One or another part of the domain is commonly explored through the attractiveness of some conspicuous feature that may be taken to herald the approach to a land of strange contrasts, impossible of comprehension by such knowledge of the normal fauna and flora as our accredited nature-studies have provided. Other principles, bolder hypotheses, it may be urged, must be framed to compass the phenomena of the abnormal frontier; and in turn to reconstruct the conceptions by which to set in revised order the familiar normal estate. An effective check to this tendency to fly to other evils that we know not of, may be found in the comprehensive acquaintance that comes with more extensive travel in psychological realms. The easy assumption of a multiple mental constitution masked in the normal individual, but revealed in the higher efficacy of more subtly endowed natures, loses much of its seeming pertinence when confronted with the greater diversity of phenomena which it fails to illuminate, in opposition to the more restricted group that was responsible

for its suggestion. However tentative and inadequate our principles of explanation, they may conform, as far as they go, to proper logical requirements. To that end they must aim at applicability to the entire range of correlated abnormalities, must be adaptable to the natural varieties of phenomena as they actually occur, must invite and receive experimental verification, must open out a vista of related gradation from normal to slightly divergent, to pronouncedly abnormal types and systems of deviation. Such an interpretation, moreover, is likely to accord with the illuminating evolutionary conception in the light of which such vagaries and disorders appear for the most part as instances of warped development, of irregular distribution of function, of exaggerated arrest, impairment, or decay. It is in the construction of such an interpretative system that the inquiry in regard to the nature and significance of subconscious functions finds its fitting consummation.

PART III

THEORETICAL

I

THE CONCEPTION OF THE SUBCONSCIOUS

Our purpose demands that we now assume an architectural responsibility, and endeavor to reach a conception of the constructive system that pervades the selected series of natural types which our descriptive survey has disclosed. The records are to be transformed into plans and elevations and sectional views, that shall indicate to the synthetic eye the general style, scheme, and treatment, from which the details follow in consistent elaboration.

The functional aspect of the problem may once more be emphasized. The measure of awareness that shall accrue to any given reaction of nervous structure to an environmental situation, in order to render that response advantageous or appropriate, will be determined by the status of the need thus satisfied in the organic life of the individual. The simplest, recurrent, and constant needs will be sufficiently met by neural dispositions without conscious status, or with the lowest type thereof. Yet more advanced and variable needs with a standing in consciousness will involve the service of the simpler mechanisms : and this because of the single muscular apparatus

that alone is able to bring the function to expression. For whether we breathe automatically or with intent, swallow reflexly or bolt our food, the same motor apparatus is drawn upon. The second performance is in each case an elaboration of the first; its neural counterpart is presumably a more diffuse functional arrangement within which the simpler mechanism, that of itself is adequate to primitive situations, is included and overlaid by complicating relations. Side by side with these simple though integral bits of conduct, which may acquire a conscious status so far as they come under control, there are groups of dominantly physiological processes that present vaguer and more massive relations; — such as digestion, circulation, and the general metabolic changes. The fact that these functions, when disordered, have possibilities of irregular intrusion into the field of awareness indicates that they normally exercise an influence upon the mental life. The ever-present organic stream constantly affects the specifically directed currents that carry conscious occupations; or, otherwise expressed, in the neutrality of their psychic tint, these more physiological functions barely emerge from the background to which, however, they impart a characteristic tone.

These considerations apply to simple units of action that as a whole are candidates for but

modest places in consciousness. The analysis is more promising in regard to procedures that develop a distinct standing in consciousness, but the parts of which may be examined in their simplest uncomplicated stages. Our initial quest is for influences that intrude unannounced, remain undiscovered when introspectively sought, and yet by some indirect testimony betray a functional presence in their effect upon the quality of psychic response. A distinctive variety of such evidence is that formulated in the argument of the psychic threshold. The physical counterpart of the principle is the law of inertia; it sets forth that a stimulus too slight for the sensitiveness of the mechanism will register no effect. We cannot weigh a grain of sand with the grocer's scales, though the chemist's balance readily measures its place in a series of minute units. Yet it would not be helpful to conclude that a tap upon the door of consciousness, so feeble as to pass unheeded, presents the characteristic status of a subconscious activity. The phenomenon belongs to the group in question; but the interpretation of such exclusion is dubious. So simple a situation imperfectly represents the normal occasion for the entry of subconscious influences.

To reach a more complete and more natural formulation, we must bear in mind that for the most part stimuli enter by definite channels and

arouse recognizing responses, likewise that the general condition of the invaded tissue markedly affects the resulting impression. Ordinary waking alertness is a condition of general responsiveness to mental solicitations, a favorable exposure to a confused murmur of psychic stimulations, like that of the composite drone of the busy hives of human industry. A thousand dispositions are ever subtly vibrant, and in their combined psychic effectiveness constitute the manner of wakefulness. Under normal conditions we never encounter an absolute zero of psychic quiescence; though we approach it, for practical purposes, in moments of most complete and restful vacancy. The threshold of impressionability is accordingly inconstant through the fluctuation in the neural dispositions whose service must be enlisted to clear the highways of consciousness. Sleep represents a decided elevation of the sensory type of threshold, — though not equally for all senses, — and sets up a wall of protection which the successful stimulus must scale to reach the sleeper; while the hair-trigger attitude of expectant attention, in its eagerness, goes halfway to meet the arrival, and thus effects a lowering of the threshold-value below the normal. Apathy, absorption, prejudice, suggest other conditions that complexly affect the terms of admission upon which properly qualified applicants succeed in delivering their messages.

It becomes apparent that the normal attitude is not a crude, unreflective, stolidly passive one, — similar to the attempt, when half-aroused, to determine whether there has been a legitimate disturbance of our slumber, — is not bent upon deciding barely whether there is stimulation or quiescence. The physical balance is truly a mere quantitative mechanism, and responds no differently to a grain of sand than to a grain of gold; but the psychic instrument, even in the simplest service, has subtle and complex qualitative sensibilities that extend beyond the presence to a regard for its nature. A sudden noise or flash arouses the startled query, "What's that?" Stimulation calls for distinction and interpretation; and to arouse this interest, the interruption must possess sufficient energy of quality or momentum to override its rivals for notice. It is only when the voice of a single claimant towers above the murmur of diverse sense-stimuli into the clearness of an individual hearing that we become conscious of it; and in so doing we distinguish it from the general murmur, give it a recognizing nod that offers it at least a passport to enter, possibly to find a local habitation and a name in our system of interpretation. The entrance of the new claimant for notice has altered the complexion of consciousness, however momentarily, so that it is distinguishable from the attitude of the immediately

preceding and of the succeeding moments; and it may bring into the range of awareness the specific objective occasion of these differences. For the practical issue, the challenge, "Who goes there," has in fair measure been answered; and the even tenor of the mind's progression is resumed. Passers-by out of range of eye and ear, who do not arouse our challenge as they pass, simply do not enter into the confines of our sphere of activity; yet if suspicious of a presence, the sentinel sounds his alarm, but the answer is too feeble to carry back; the result, though seemingly equally negative, may in a closer scrutiny be found to be something more than *nil*.[1]

[1] Convincing evidence of the incessant elevation and depression of the threshold of awareness is observable in light sleepers. The slightest noise is registered by the responsive though sleeping nervous system, and finds a sensitive barometer in the changes of respiration. If the noise is faint and without meaning, the deeper regular breathing is resumed; if it suggests a possibly legitimate appeal, the sleeper comes nearer to wakefulness, is poised in a restless moment, that in one issue returns him to slumber, in another brings him to wakefulness; a sharper or more significant disturbance acts as an immediate call to arms. Yet the entire situation is altered if these appeals be directed to the sleeping consciousness of a child or of a less impressionable adult. In that event, quite energetic stimulation effects no change in breathing or seemingly in any other discernible registry. It is not impossible that in such contrasted states there enters in the one case a real difference of presence and absence of certain neural (and psychic) modes of motion, rather than a gradation of degree alone. The point of view here upheld is that within the psychically significant field the subnormal stages of stimulation are more con-

From an experimental approach, it has been determined that if one persists in judging the comparative brightness of two tints long after these have been so equalized that the eye has lost all difference between them, the judgments thus accumulated without confidence and seemingly by guesswork prove that the judging mechanism, in spite of its low introspective rating, reports in slight favor of the actually brighter tint. Its preferences in this distrusted region remain consistently placed; and the balance in favor of the really brighter stimulus decreases as the actual difference in tint itself grows less. The evidence does not stand alone: Present two equal lines to the eye, and to the ends of one add pairs of divergent shadowy strokes, and to the other, pairs of convergent strokes; and the former line, in virtue of these contrasted "arrow-tip" additions, will appear considerably longer than the latter. Now reduce the shadow-strokes to such a degree of faintness that the eye fails to detect their presence, and continue to judge (naturally with diminished confidence) which seems the longer, and it will be found that the undetected shadows incline the judgments in accord with the illusion which their observed presence induces. Here, then,

sistently regarded as forming a connected series of varying degree, which in more developed procedures entail as well distinctive changes in complication.

we seem to have stripped the subconscious to its primal state : for here are two states of consciousness indistinguishable introspectively, and two sets of conditioning stimuli that present physically determinable differences ; while, furthermore, the cumulative application of the pair of stimuli to a suitably perceiving organ results in disclosing an effective inclination that escapes the intent conscious judgment. For this manner of devious influence *upon* consciousness, but seemingly not *through* consciousness, the term subconscious seems peculiarly fitting.

The interpretation of this procedure is necessarily hypothetical. A defensible supposition seems to be that of an effect upon the general agitation of the depths from which the crested wave of introspective awareness arises. The wave owes its form, its vigor, its moment of appearance, its relation to other waves of the series, to a complex but converging group of influences ; the most distinctive factors of the group, those most centrally concerned with the psychical status of the whole, attract to themselves the consciousness quality of the perception ; the others, though not of wholly disparate nature, modify the resulting impression without thereby qualifying for the more highly organized standing. The stream of consciousness is a complexly agitated current, — its movement conditioned by manifold and diverse

forces, — that is now dominantly turned to this channel or that, but never exclusively so, while the very manner of the variably concentrated inclinations embodies its more constant characteristics. By reason of this very complexity, the unitary resultant that becomes the introspective representative of the whole cannot really be the whole, but only the delegate thereof in the parliament of deliberation. None the less, the "constituency" feeling of the member, though effective, is inevitably vague, composite, a mass influence; while his expressions carry an individual, yet withal a "party" flavor. Consciousness, particularly in its more practical phases, requires a sustaining registry; it must find definite alighting-places to mark and simplify the stages of its progress; it is not equally concerned with all phases of the composite totality, and limits its selective registry to such aspects as by their nature are favored for the central purpose. Consciousness is far from being an equalized projection upon a common plane of all the objects in the field, with a retention of equal sharpness of outline for each; it is not even a photographic copy that records a faithful representation in perspective of whatever affects the sensitized negative; it is simply a sketch, an interpretation, in which certain cherished features represent the impression and the appeal of the whole, while yet the manner of its

inclusions is measurably influenced by the details which fail to appear in its record. More abstractly put, the formula indicates that a psychic moment is the resultant of a specifically inclined activity reared upon a foundation of more generally conditioning influences; and the experimental issues above cited stand as registries of subconscious influences stripped of complication, because in these enforced attitudes the specifically inclined activity is so tenuous, so near to the vanishing-point, that introspectively the essay seems a mere mimicry, and the result becomes expressive of subconscious influences. The subconscious procedures, whether thus isolated or whether retained in their natural habitat, form a corporate part of the psychic moment. Their presence is inherent in every such ruffle of the stream; yet how far their influence upon the wave may expand towards the stage of explicit appraisal, remains subject to the evolutionary conditions of degree and circumstance.

The principle of the subconscious, to maintain its prestige as a commanding influence in the mental life, should find manifold corroboration in the natural mode of exercise of mental function. It would accordingly be both unnecessary and unnatural for the entire range of components of the integral procedure to be present in consciousness in order to contribute effectively to the actual issue.

Practical results are compatible with quite modest analytical proficiency; and even when acquired knowledge illuminates the procedures, it may affect practice but slightly. Under this principle, our psychological equipment should be found to be replete with arrangements that develop into excellently serviceable organs of apprehension without yielding a knowledge — a feeling-awareness — of their *modus operandi;* and it may be added as a not very remote consequence, that in this fact lies an important reason why there arises such a science as psychology, whose purpose it becomes to bring to light these introspectively unrevealed relations. The general emphasis is upon the end with a careless disregard for the means. If the senses bring their food-stuff to the mind, it seems to be indifferent how far we become aware of the details of such ministration; yet we cannot but acquire a more or less definite acquaintance with the nature of these serviceable devices. The infant can hardly avoid the discovery that vision comes through the eyes, hearing through the ears, feeling through the fingers, and possibly more elementarily than all, that an interesting range of sensations is gained through tongue and lips. But both child and adult — if uninformed — may fail to distinguish properly what portions of the composite sensations obtained during eating enter through smell, through taste, through touch, or

through movement; consciousness reports that what is in the mouth tastes like currant jelly, and does not analytically realize that the "smooth" sensation is tactile, the easily melting quality motor, the flavor the contribution of smell, and the sweetness combined with acidity the sole gustatory factor. Admittedly all these qualities are appreciated by the practical consciousness, and through their efficiency it recognizes the morsel to be currant jelly. Likewise is it admittedly important not to confuse lack of explicit or of analytical awareness with non-representation in consciousness. None the less, the instance is pertinent in its essential aspect, as will presently appear.[1]

A parallel status obtains with reference to the modes of working of single sensory systems. The system brings awareness of the common end, but not of the contributory means; though such contributors may be quite competent to qualify in varying degree for explicit awareness, when attention provides a favoring occasion. A complex

[1] It thus becomes possible that we should possess and utilize a form of sensibility without discovery of the ministering sense-organ, if the exercise of such sense does not involve explicit contributory factors of motor control, and brings its messages in the form of vague righting and disordering tendencies. Such is the status of the organ of equilibrium, which the layman finds no practical occasion to discover. In conformity with such possibility, it has from time to time been suspected (though now disproved) that we possess a magnetic sense, which would presumably become effective in a wholly subconscious manner.

example appears in the combination of visual data that jointly afford knowledge of the depth-relations, the stereoscopic quality of space. The use of the eyes does not inform us of the minute but proportioned differences in the retinal images that actually serve to distinguish between the curvature of an umbrella-frame and the flatness of a spider-web, between a three-dimensional wire model of a truncated pyramid and the shadow thereof. The mind receives with surprise the demonstration that we ordinarily assume the illumination to come from above, and that accordingly the photograph of a hollow *indentation* — with the lower half bright and the upper in shadow — will, if held inverted, be transformed into an equally conspicuous *protuberance*, for the reason that only a convex surface would ordinarily appear bright above and dark below. Yet to this detail we can consciously attend. These phases of more or less explicit recognition thus enter with variable emphasis into conscious operations, whether the elemental components readily qualify, or not at all, for a separate audience.

It would thus appear that the influences that incline me to venture my guess that one tint is brighter than another, though my strained attention reports no confident judgment, participate in the psychic process concerned in a manner akin, though not altogether coördinate with the

influences that are involved in the maintenance of the body's equilibrium, in gathering data for the construction of a world of three dimensions, or in interpreting the quality of sound. The two types are admittedly not the same; for there is a difference of rank, of status, but equally a kinship of service. In the first instance, by the very supposition, the physical difference in question is suppressed out of reach of the introspective grasp, and yet exercises an influence otherwise detectible; in the second group the activity approaches more nearly to the status of mature awareability; and it becomes possible to point out stages of increasing privilege, quite parallel to those stages of increased control that obtain among types of reflex action, all of which are reflex, but not equally so. Thus the light-and-shade relations of concavity and convexity are readily separably attended to; so is another factor in the stereoscopic perception, not as yet mentioned, namely, the obstructions of more distant objects or parts of the same object by nearer ones. These yield such definite types of awareness that they may be independently observed; yet, after all, their separate appreciation as light-and-shade distinctions and as relations of obstruction is by no means a mental observation of the same status as their subservient participation in the perception of solidity, in which composite impression these factors ever

remain subconsciously integrated. However much we may happen to know *about* the process, we still immediately first get the total impression of perspective, and then, if we like, proceed in a separate investigation to analyze the situation.

From the vantage-ground of these analyses our outlook upon the receptive activities of the mind justifies the generalization that the mode of entry to and the reception by the mind typically comprise a composite procedure. This procedure takes its name from the issue thereof most conspicuous in consciousness, but achieves such individual distinction through the merged influence of subconscious factors which, though not in consciousness, may be said to be of it. In further illustration of the comprehensive significance in natural procedures of the subconscious participation, a most characteristic trait applicable to an extensive range of sensory-perceptions may be brought forward: it is that many of our senses proceed upon a general mass-perception that appraises effects as a whole, that is but feebly analytic and quite decidedly impressionistic in its acquisitive temper. Furthermore, the naïve, less trained judgment that is most free from the intrusions of science-begotten insight and the dominance of metric systems, or the application of judgment in directions in which such training is of least avail, will exhibit the tendency to this mass-impres-

sionism, this merged appraisal, in its more distinctive and natural forms. In judging the tone-quality of a piano, the color-harmony of a wall-paper, the mass-impression makes the first appeal, and for the layman possibly the sole appeal; nor is this due wholly to the æsthetic aspect of the judgment; though it is the fact that the complexity and unanalyzed status of the æsthetic appraisal constitutes it a notable illustration of the impressionistic tendency of the mind. Yet æsthetic appreciation depends upon sensitiveness to sensory distribution; we must perceive differently to feel differently, though the intensity of the pleasure-effect may overpower the less emotional perceptive process. The false note of the ambitious tenor sets our nerves on edge, but only if our ears possess the proper sensitiveness; the ear that is immune to the discord proves to be weak in making bare distinctions of pitch. Likewise is the emotional appraisal the more primitive procedure, the more immediately the result of useful adjustment, and therefore in this aspect proper to cite. Feeling is older than knowing. Whether a morsel is to be accepted or rejected, whether we are to feel attraction or repulsion towards a solicitation, is the fundamental query, which later is replaced by the logic-infused attitude of determining decisions by systematized discernment, and of deciding conduct by reason.

Accordingly, in the manner of our being affected, the recognitional and the pleasurable factors themselves merge. In the very recognition of an olive or a persimmon by its astringency and flavor, there enters the palatability to our individual taste. To the inattentive eye potatoes and parsnips may present a confusingly similar appearance; the unsuspecting partaker who approaches the preparation as potato, and who has an aversion to parsnips, is likely to find the sensation induced by the first mouthful one of general dislike, out of which the specific recognition of the objectionable vegetable quickly emerges. Even when the mind is concretely on distinctions bent, the same general impressionism dominates, though in more specifically directed manner. The expert eye in a cursory glance distinguishes between pearls and beads, topaz and colored glass; between cast metal and forged or hammered work; between machine embroidery or lace and the hand-fashioned product;[1] between a "composition"

[1] The distinction between hand-made and machine products is the most generic of this group, and offers at least one common element that easily reaches explicit recognition; this is the factor of regular uniformity, particularly of symmetrical or repeated members. The invariability of the machine-made article leaves a general impression that is easily supplemented by the specific detection of its cause. An interesting distinction of this type has been added to the sphere of auditory perception by the invention of piano-playing mechanisms; though these are equipped with quite a range of regulating devices to give expression to the per-

ornament or moulding and one of carved wood; between an antique chair and a modern reproduction; between a Persian rug and an imitation; in general, between the genuine and its counterfeit, although it is ever ready in doubtful issues to resort to a careful conscious search for recognition-marks; while forgeries are by no means unknown, so skillful as to deceive all but those gifted with the keenest insight, in whom suspicion is first aroused by a vague discordant impression, and then verified by minute and ingenious tests. In deciding between cotton and linen, touch may be called upon to add its equally unanalyzed impression of the feel of the texture, while yet holding in reserve the ultimate test under the magnifying glass that reveals the difference in structure of the thread. In all these impressionistic judgments of discrimination the characteristic dependence upon the general effect emphasizes the natural training of the senses that acquire expertness by practice, — only incidentally reënforced by precept and a knowledge of the tricks of the trade, — by a sensitiveness to results with subconscious appreciations of the constituent details. It is thus that the craftsman or artist feels his way to the effect that he desires to produce, proceeds by

formance, the musical ear is not likely to confuse the pianist's rendering with that of this ingenious and partially modulated substitute.

the impressionistic rejections and approvals of his color and form sensibilities, and develops an individual style which the critic but imperfectly succeeds in reducing to analyzed statement. We may be quite certain that the visible qualities that ultimately lead the connoisseur to decide which canvases are the authentic products of Botticelli's brush, and which the work of other masters of kindred manner, were but subconsciously effective in the artist's creative consciousness.

A review of the status of these receptive attitudes may profitably take note of the different privileges that the several senses enjoy in the conscious registry. In this aspect vision is easily dominant; and man figures as a visually-minded agent. Within the visual field, it is in turn form that is the conscious and explicit sense, while color is eminently impressionistic. The conscious representative of an experience in the memory-images that facilitate its recall is likely to cluster about the visual components. These are apt to be clear-cut and prominent, are amenable to system and description, and occupy a naturally favored position in the mind's registry. The recollections of travel, though based upon impressions experienced compositely by service of many senses, are conserved largely as visual pictures. For this reason the photograph is selected to recall the impressions, and by this partial record arouses the general

mental and emotional appeal of the original. As an expression of this quality of the human mind, the contrast has been suggested that, while to the master his dog is a visual perception and is thought of as an image of form and color, possibly to the dog the master is centrally a perception of an individual odor to which the visual appearance is but a supplement. Thus each contribution to the resultant impression brings its offering with an assignable measure of explicitness that becomes an index of its rating in conscious registry.

It would take us too far afield to trace the "conscious" value of each of the senses. Hearing — apart from its use in speech, which is a matter of interpretation largely — is markedly impressionistic. Indeed, the quality of the musical tone in its relation to the system of contributory overtones, that themselves without separate representation in consciousness compose the resulting impression, is the relation that the psychologist selects to exemplify the typical status of the merging of a sensible effect, a distinctive impression, on the basis of a coöperation of individually receding elements, merged in a recognizable issue, that makes its appeal and its registry as an individuality with no suggestion of being an *ensemble*. That this type of effect, seemingly a solo performance, but in reality a chorus led by a commanding voice,

may be regarded as one phase of development of a subconscious procedure is the thesis here supported. Just how far one finds in auditory images favorable or preferred material for conscious thought is determined largely by his individual leanings; to some the murmur of the sea and the sighing of the wind in the forest most strongly recall the original experience, to others it is the dash of the spray and the swaying of the branches overhead. To each of these experiences there attaches a peculiar feel of the air, partly tactile, partly organic as affecting respiration, partly a quality of odor, or even in the case of the salt tang, of taste. All mingle with variable degrees of explicitness in the total impression; and any one may serve by a vague subconscious suggestibility to direct the associations of our musings, tracking a trail not by the discerning scent of the hound, but by vague feelings of subconsciously suggestive relations. In yet other ways do impressions that hover near and seemingly waste their fragrance upon a desert mind, affect the movements of its subtle progression through these subconsciously motived influences, that indeed blossom unseen by the mind's eye, yet contribute to the mood of its visions.

All this is even more intimately characteristic of the æsthetic than of the discriminative function of sense, of appreciation than of judgment. It

is through pleasure and pain that Nature impresses her simplest lessons. Immediate needs, to insure attention, are fitted with this convincing appeal to feeling. In the lowly beginning, where use is commanding, instant impressions of gain and loss are too urgent to wait upon analysis; and again at the top, in the leisurely and cultivated satisfactions of æsthetic craving, analysis fails to follow, and appreciation leans heavily upon inherent sensibilities, that bring their messages in a language that is not articulate. Thus comprehensively, but with fair allowance for the equally extensive service of conscious apprehension, does the measure of subconscious efficiency span the distant stages of mental evolution.

We thus recognize as types of subconscious ministration, first, those whose function is fairly well set by natural provisions and is modified but slightly with the development of the organism. Within this field there are again two sub-types: the one of vague organic sensation that contributes to the background of sensibility; the other specific sense-excitements of simple, uncomplicated status. The second and far more extensive class is composed of procedures that require considerable practice to develop their natural tendencies, but which once acquired may again lapse to lesser concern in conscious direction. Such is distinctively the field of habit, the nature of which,

as well as of the lapse to which it is so markedly subject, has been amply set forth. It is further notable that in the process of such acquisition, the conscious element itself becomes shifted from means to end; hence, we can give far better accounting of what our habits do than of how the effect is produced. All this again emphasizes the subconscious type of facility by which habit, our second nature, follows in the footsteps of our first nature, by enlisting minor facilities reduced to lesser places in conscious concern in the interests of larger specifically conscious consummations. The art of doing and of thinking, to whatever field applied, requires the familiarity begotten of integration of large experience, the acquisition of the special technique that allows concentration upon the end with ready service of trained facilities. The happy support of the associative mechanism, the crowding of the antechamber of consciousness with germane and worthy suitors, express variously the necessary dependence of the issue upon previous facilitation. The very complexity of the mental life demands the successive automatization of one facility and another in cumulative inclusion; we rise upon the steps of our habitualized selves, grown familiar to their task. It is because the conquered stages of our acquisitions may now be entered into with diminution of effort, that newer victories may be

achieved. In our mental exploring expeditions, we establish provisioning stations, constantly making fresh excursions from a newer base, while yet we flit familiarly among the older stages that mark our progress.

It is easy to understand the advantages of the natural provisions by which so large a portion of our facilities pass through this stage of conscious acquisition before lapsing to a subconscious status. We recognize the enlarged scope, the complexity and the precision of adjustments that may be embodied in the highest ranges of expertness. Our complex and profitable habits cannot be primarily automatic because their very automatism, to be adequately plastic, must be adjusted to complex and shifting groups of situations; their only possibility of assuming a properly subordinate position in the mind's occupation is through a preliminary stage of decreasingly conscious habitualization. Out of mere random movement interesting details emerge; but once emerging, are sought for and fixed by endless repetition. Out of trial and error and critical experimentation emerge the habits that become embedded in our subconscious selves. These delayed proficiencies wait upon conscious guidance and a directive will, and achieve, each in its manner, a variable importance in the mental administration; through such education the hand and

voice, by which peculiarly these motor developments are served, become the preferred organs of conscious expression. To have passed through the medium of consciousness, even though no longer wholly moving in this medium, imparts a different tone and status to a facility than to have inherited the same more nearly ready for service. It is at all events different, and for most facilities better, to have consciously acquired and then lost than never to have acquired at all; — a relation as pertinent of the useful automatism of daily service as of the vestiges in training and appreciation deposited by the long forgotten college course in Greek or Calculus. The mental negative must be dipped in the bath of consciousness, to be properly developed and bring to light its impressed possibilities.

The analogies between the primary and lapsed subconscious procedure are interesting. We have found that swallowing, as well as walking, proceeds more naturally when uncomplicated by conscious interference. An over-direction of consciousness disturbs the natural precision of primary automatisms and acquired habits alike. It becomes easier in determining whether the *e* comes before the *i*, or after, to give the hand free scope to run the word off in subconscious facility.[1] The process

[1] The following is an instance more striking by reason of long interval of disuse: An elderly lady, confronted with the problem

once automatized is more readily reinstated in subconscious (*i. e.* lapsed conscious) terms than in the terms of its original conscious acquisition. It thus becomes intelligible why the impetus to set into movement a sequence of automatized procedures may dispense with the starting signal of conscious initiative, and proceed to a fitting issue in subconscious independence; in these, as doubtless in many instances, the subconscious clue is more effective than the conscious, when both are deliberately tested.

It is again interesting to observe the variable dependence in different individuals upon the greater or less degree of explicitness of their procedures in predominantly motor acquisitions. While one billiard player deliberately plans his stroke by angles and the parallelogram of forces, another may depend upon an impression and the amateur reliance on general results. If the position of the balls suggests a familiar stroke, either player will deliver the affair to the impulses, and the thing is done almost before it is planned; the more difficult stroke calls forth their divergence of conscious regulation. For a similar reason, it is often

of threading a sewing-machine of an obsolete type, failed in the attempt consciously to recall or reason out the process from fragmentary impressions; but a relapse to a semi-automatic attitude in which the fingers were encouraged to choose their own manipulations was successful, — a success that could then be repeated by reasoned efforts.

easier to teach another by demonstration than by instruction; the novice best acquires the stroke in skating while supported between two experts, — a proceeding paralleled by the teacher who guides the hand of the child in teaching the latter to write; for by such guided "coaching" the muscles learn in their own language what to try for. In still other facilities in which reasoned relations combine with motor knack, it is ever a nice decision to know how far to lean upon explicit understanding and how far upon the implicit, subconscious rule of thumb. The procedures that embody in the habit of their accomplishment the more decided measure of implicit status are the ones that approximate more nearly to, and under the release of guidance favor, the independent functioning of the subconscious; for these will be capable of execution with lesser attention, in conditions varying from slight abstraction to developed automatism. On the other hand, the tasks that we approach and pursue in clearly analytic step make closer demands upon conscious direction; these it will be possible to achieve under any other attitude only by intervention of peculiarly favorable (abnormal) conditions.

Acquisition, elaboration, expression, compose the triumvirate that direct the affairs of the mind. We have sought the most distinctive clue to the nature of subconscious functions in their mode of

entry into the psychic forum. But entry implies some act of reception, some incorporating procedure, that of itself constitutes an initial elaborative step. My doorbell has just rung and has aroused my interest; and from the snatches of sound that reach me in my study, I am able to recognize the voice that inquired for me. The processes furnishing that recognition are merely subservient to the end, and I cannot say how I formed the impression; yet the act may be called a conscious recognition, though it contains subservient implicit factors. But even if I had been at the moment sufficiently absorbed in my writing, I might still have formed a correct guess as to the identity of the unannounced visitor. In that event I should naturally call it an example of subconscious auditory recognition. The whole difference lies in this: that in the latter case I remained unaware both of the complex factors of my recognition and of the occupation as a whole, whereas in the former case the actual recognizing moment took a place within the general current of the mind's concern and received an effective attention.

The presence or absence of this last element is a critical factor in the status of the whole. It has already been characterized as the act of incorporation, and is apparently indispensable to legalize any transaction for which the mind may be held responsible. That such is not the case, our

descriptive findings amply set forth. We seem accordingly driven to the conclusion that some kind of incorporation really takes place, yet fails to yield the distinctive feeling of legitimacy that attends it when accomplished with normal awareness. The manner of such incorporation depends upon the interest or cordiality of the welcome that goes out to the new claimant. We have been determining the status of a subconscious procedure under the supposition of a normally efficient alertness, a favorably disposed attitude of hospitality, yet inevitably not an indiscriminate reception of all comers. Rival suitors for notice and crowds of relevant and irrelevant claimants must frequently meet and jostle one another at the portals of the mind; and this busy and diverse traffic brings it about that a given attitude is favorable to one claimant and not to another. Such complication introduces a new variable term into the formula, whose value appears when we consider in how far the policy of the "open door" applies to the mental intercourse, and what complex conditions of ingress are enforced at the gateways of consciousness. That in useful thought there is more or less stringent policing of the highways, and that fantastic processions of revery may enter the gates when such surveillance is relaxed, has been duly recorded. Our present inquiry is a more specialized one, and relates to

the organic contrivances, the hidden springs, that operate this psychic mechanism. The temper of consciousness is itself ever shifting from conservative to liberal, — the portal now generously ample and now narrowly exclusive, — and yet retains its variably selective preferences, and visés with more or less formality the passports presented for entrance.

That the latter office may be perfunctorily performed brings it about that sojourners are found within the gates to the surprise of the now more alert sentinel. The circumstances favoring such subconscious entrance are twofold: the first relating to the character of the applicant, the second to the condition of the incorporating registry. Familiarity is a dominant factor of the former type. I am apt to recognize my visitor's voice subconsciously, because voices and the whole experience of visitors and doorbells are familiar, and fall within the circle of my easy interpretations. I may with equal subconsciousness interpret a verbal message delivered by a familiar voice to my otherwise absorbed self. But too complex an appeal will not be thus assimilated; if the words are spoken in a foreign tongue, even though I understand the language, they are not likely to achieve such interpretation, and will either remain unattended to, — except as a vague auditory impression, — or will arouse an attention

adequate to their conscious apprehension. If my absorption is deep, my eyes wander vacantly over the immediate horizon of possible appeal, and take in almost nothing either wittingly or unwittingly; yet these organs are sufficiently trained in subconscious service to readily catch impressions in a fleeting, inattentive glance, which are then both seen and interpreted while my incorporating self is never called away from its otherwise directed occupation. My eye is caught by significant or personally interesting headings in the newspaper, and is quite unlikely not to be arrested by the unexpected occurrence of my own name in print, all of which it usually turns over immediately or with slight delay — but occasionally seemingly not at all — to the uses of the conscious self. But I cannot subconsciously catch items in a Dutch or a Spanish newspaper, though the words have meaning to my attentive understanding.

When, however, the variations of the second condition, that of the degree of absorption, become more pronounced, the relations present possibilities of indefinite development. When my attention wanders from the printed page and I "come to" after a brief "brown study," during which my eyes have continued their line-by-line incursions, bringing me to the end of a paragraph which I was just entering upon when the

"absence" came on, I am quite likely to find that I can recall almost nothing of the absently read paragraph, and even recognize no more when I read it attentively a second time. But whether my subconscious energy is so feebly effective depends upon my psychic condition. If I am quite fatigued or the revery profound, it absorbs me wholly, and reading is a vain mimicry; but if the wandering had some more incidental motive and came upon me amid general mental alertness, I find that while I have been mainly thinking of something else, I have absorbed fragments of the printed lines, though I may be skeptical of the fact until I put it to the test.[1] It is likewise conceivable that I should have been so intensely absorbed in my writing as to have remained oblivious alike to the jarring

[1] This is naturally not the same attitude as an intentional division of the attention between two unrelated tasks; though the possibility that creates the one is affiliated to that which begets the other, both being dependent upon variations in the breadth and depth of consciousness. I can keep on writing while listening to a few words addressed to me, but neither must be too absorbing. Too deep immersion in the one involves error, arrest, and an increased attention, to the detriment of the rival appeal. I may find that under such circumstances I have written more than I thought I had, or have heard more than I can at the moment recall. With a slightly transformed attitude, I find that I have been consciously writing and subconsciously listening; or that my too intent listening has reduced the writing to an automatic state. The shifting values in consciousness of each of the rival occupations is the point involved.

doorbell and to the inquiring voice; and possibly I should find, when I reached a less absorbing moment, that I had a vague feeling of having experienced a momentary tendency to an interruption, but nothing more definite in content, nothing that later emerged to a more explicit state. All this emphasizes how variably within the subconscious realm the apperception hovers near to or far from a full-fledged incorporative nod, and finds in such variation an essential conditioning quality of a subconscious procedure. On the one hand, the receptive appeal to which I consciously respond when my normal attention is properly directed, proves not to be the whole of the appeal that becomes effective; and on the other hand, while I am thus responding, I am not wholly deprived of possibilities of response in other directions along the familiar channels of my unified experience, such possibilities being dependent on the specific kind of consciousness dominant at the moment. Finally, some special type of attitude is always dominant; and it would be wholly impossible to interpret a subconscious procedure except with reference to some specific attitude. For many analytical purposes it is proper to assume that the attitude conforms with sufficient constancy to such a standard; but at the present juncture, the variations introduced by fluctuation in attitude become increasingly significant.

The elaborative procedure occupies the central place in the psychological system. Its most representative movement is the linkage of association; but liberally conceived, it extends from the simplest bond embedded in neural disposition to the most involved relations of conclusion to premise. With regard to the simple bits of conduct, the principle of elaboration indicates that feeling is so closely preliminary to doing, that after but moderate experience, the interpretative step from one to the other requires so feeble a type of awareness as to assume the distinctive subconscious stamp; with regard to more complex behavior, it provides for the most varied, intricate, and indirect intervening steps, that reflect the entire range of mental operations. Their typical subconscious status may appear in the incident of the ring at my doorbell. Suppose that when I try to recognize the voice of my visitor, I find the nebulous vision of a face looming before me, or I find myself reconstructing the interior of a local theatre, and I determine that the face belongs to the owner of the voice, whom I last saw at the theatre a few evenings ago. The associative mechanism is clear, and is plainly dependent upon the general mode of working of my mental elaborations. These may bring their products to the review of my introspection; but the steps themselves are not introspectively revealed. Their happy support

of conscious purpose is admittedly an uncertain factor, embodying a subconscious element. Yet so long as I give my mind to the recognition of my visitor, I am disposed to regard the procedure as conscious. If, however, I had kept on with my work quite irresponsive to either bell or voice, and later had "come to" at a less intent moment to wonder why the vision of the face was haunting me, and only after some trouble had succeeded in reinstating the incentive and the path of my thought-progression, I should describe the steps that took me spontaneously from voice to face, or from voice to theatre, as an associative elaboration equally subconscious with the supposed unawareness of the sound of bell or voice. The difference of status between conscious and subconscious elaboration, when thus stripped of complications, becomes quite elusive, and seems to lie wholly in the fact that I was bent upon the identification in the one case and not in the other. Yet the same result appears when the intent is maintained or dismissed. We know familiarly that often when we abandon the search for the name we are so eager to recall, it suddenly intrudes itself into an irrelevant moment; and yet we know equally well that effort is needed for results, and that the least progressive occupation is that of resting upon our oars. Some further distinction is needed to present the relations involved in natural perspective.

The desired distinction brings into notice that the brain, like the heart, is always active, though with pulsations far more intricate, the varieties of its service indefinitely more complex. Mental work and play, diversion, revery, vacancy, sleep, suggest the wide range of attitude that determines the flow of conscious and of subconscious occupation. The central distinction with reference to which these attitudes find their place is that between purposeful effort and easy-going, natural drift of thought. Some thinking and some dreaming enter into all of our mental procedures: the extremes are sharply contrasted, but give way to delicate transitions in the middle registers. The processes of elaboration in these two trends are fundamentally affiliated by the community of material dispositions upon which each proceeds; they differ more or less in their combining tendencies, the patterns into which they weave the threads, possibly even in the type of loom and shuttle that they employ. The individual associative trends and the residues of personal experience, equally in idle romancing as in the solution of set problems, determine the alighting-points of the flitting and perching movement of thought. In an intimate sense, the actual fluttering of wings is subconscious, marked only in consciousness by the transient poises of momentary arrest. It is these that I try to reinstate in retracing the spon-

taneous yet coherent stages of my thought; my success depends upon the measure of system that controls my mental progress. Logical steps are more amenable to chain and compass than imaginative construction; but not infrequently the page of jottings and captions that I hastily set down when I was forced to drop my task fail to reinstate to my mind, twenty-four hours later, the projected unfoldment of my theme; so that when eventually recovered by circuitous aids, I know that it would have been differently done and possibly better done at the first sitting. My task combined, as most composition does, a directive logical trend interspersed with illustrative and constructive embellishment; and though I reinstate the general trend, as recorded in the alighting-points of my argument, I can never hope to reproduce a second time the precise form and flavor of my expression.

Such considerations draw attention to the marvelous intricacy of the associative ground upon which, and in which, designs significant and fanciful unceasingly play. The movement is infused with varieties and qualities of awareness; such awareness is dominantly of ends and not of means, of halting-places and not of flight, and is normally termed conscious thought when dominated by deliberate purpose, and when a directive attention, selecting and rejecting as it goes, is given

to the successive stages of the associative product. It is called subconscious when, after quite prolonged submersion in the depths of the associative waters, a result emerges that stands in some fitting relation to our interests. The criterion that we apply is ever that of logical or psychological fitness. That we continue to think of something or other so long as we are mentally alert, offers no peculiar problem; a considerable measure of erratic sequence we also accept as the natural mental lot; but the occasional emergence of rational coherent groupings, with special pertinence to dominant interests, at once arouses inquiring surprise. Clearly, the specific trait of subconscious elaboration is in the production, with lowered oversight, of sequences that present a more or less striking infusion of cohering purpose. As such, it is the natural sequence of subconscious acquisition. The interpretation of the entrance of an appeal is inevitably bound up with the further spread of significance of that appeal, as it becomes absorbed by the apperceptive medium, and becomes effective in thought or revery. Indeed, the distinction resolves itself into the length of the submerged intervals between emerging moments of awareness. The normal relation involves a considerable variation according to temperament; and the abnormal relation may maintain subconscious elaboration for such long

periods — like the expert diver swimming long stretches under water — that we are surprised to observe how far away from the starting-point the next appearance emerges, and are even tempted to suspect some measure of amphibious endowment in the performer. As a fact, however, it is in normal dependence upon the fresh air of consciousness that our mental life finds its natural respiration. Conscious utilization of subconsciously elaborated data remains the normal formula of thought. We label the product conscious when the drafts upon the reservoir are frequent and overt; we call them subconscious when fewer and elusive; but we hold the term peculiarly pertinent when the issue conforms more to purpose and interest than to mere capricious revery.

It is in the expressive issue of thought in conduct that the mental unit of procedure finds its point of culmination. The goal of impressionability and elaboration is set by action; conduct and the embodiment of motive in character present the final test of our insight and our deliberations. Life is activity, and the breathing-spell of passive absorption is but the recovery for the next stroke of the oar. What we do and say becomes the standard index of what we think and feel. The convergence of awareness upon this consummating step is thus a natural emphasis; and as the object

of special concern, its direction would seemingly be but slightly subject to lapse to a subconscious level; but upon closer scrutiny its status proves to be complexly determined.

The twofold aspect in regard to awareness of the motor impulse must be carefully distinguished: the return report of the action as performed, and the sense of initiative that accompanies the process at its inception. An awareness is normally attached to each factor, though in quite distinct manner. If the initiative proceeds in normal fashion, the awareness of the action as performed will under like normal condition naturally follow. An awareness of the performed movement with loss of the sense of initiative may quite readily occur within the range of the normal; and under unusual circumstances each may acquire a pronounced degree of independence of the other. Accordingly, their subsconscious status requires quite different formulæ. The initiative embodies the specific moment of conscious action; the sense of intention, the merging of deliberation into impulse, and the passage of impulse into execution beget a distinctive type of feeling, and particularly, if there is operative some inhibition, some inner conflict of exhortation or suppression, whose purpose is to shape action to a wiser course, or to hold it in reserve for the psychologically fitting moment. Subconscious action is such as does not attain to,

or has for the time remitted, this directive feature. Its formulation may be brief and precise: impulses that find their way to motor channels without the support, or with the feeble support, of this sense of initiative are subconscious. So distinctive is this type of action, and so definitely a motor affair, that the term subvoluntary seems far more precise. There is here attached to the feeling of awareness a special quality, that of permission, consent, sanction, fiat; the sense of initiative is a "fiat" awareness. Formally, there may arise three types of subconscious action: the first, the lapse of initiative, but the subsequent awareness of the action through its performance; next, the converse relation in which the initiative is present and felt, but the report of accomplishment omitted; and lastly, the running through of the action in complete subconsciousness without arousing the current of normal awareness at either end. The familiar motor lapses furnish the setting for each of these. The first appears in my sudden arrest by the clicking sound during the unintentional winding of my watch, when donning my evening clothes. In conformity to the last type, in which the entire action is lapsed, I may discover at the retiring hour that my watch is already wound, and conclude that I went through the process automatically while dressing for the evening, with only a suppressed awareness of both the inten-

tion and the action.[1] The second type appears as follows: if while undressing, my routine is interrupted, I may be beset with doubt as to whether I really have wound my watch, which I do ordinarily before removing my waistcoat. I am confident that as usual I intended to do so. If done, it was not unintentionally done; and finding it wound, I conclude that the ordinary report of a duty accomplished has on this occasion been weakened to a subconscious status. In such cases the awareness need not completely disappear. Thus in the search for a misplaced article, I have a strong conviction that the thing was intentionally bestowed somewhere for safe-keeping; but the act was carelessly done, and has left an uncertain vestige; yet I do not hesitate to assert that my willing self disposed of it in pursuit of a conscious initiative. Likewise the philosopher who did not know how many cups of tea he had

[1] To what measure this awareness comes through the feeling of contact, through the clicking sound, through the movement itself, may or may not be important. Movement frequently produces results that appeal to other senses, but is likewise distinctive in itself. Darwin relates an incident in which a morbidly shy young man, responding to a toast proposed in his honor, went through his carefully rehearsed speech without giving utterance to a sound. He had the sense of innervating his own vocal apparatus in accordance with the articulation of his words; but his mental perturbation interfered with his vocalizing the sounds, and also with the detection of this vital omission by his own hearing. The possibility of a lapse confined to one element of the motor response is thus neatly illustrated.

taken, knew very well that what he had enjoyed reached him through his own initiative; and yet another of the guild, who sat down to read with a resolve not to nibble at the bunch of grapes on the table before him, remained seemingly oblivious both of the temptation and the fall until the last grape was gone. Grape by grape, the initiative to extend the hand, take to the mouth, and swallow, as well as the report that such had been done, — all dropped to a subconscious level. Yet there remained a sufficient personal flavor of the whole to enable the partaker to acknowledge in dim retrospect the eating of the grapes as his own action. On the other hand, in the case of a common type of "automatic" writing, the subject is quite well aware that his hand is doing the writing, — both seeing it and feeling it move, — but the sense of initiative is wholly lacking; it is not *his* writing, but the writing is going on through his motor apparatus by a force extraneous to his directive consciousness. We conclude accordingly that the general formula for subconscious procedure applies to the expressive factor in so far as the registry of what the muscles do, or of what happens to them, is concerned; for this is but a return form of awareness of a sensory type. But an individual status must be assigned to the specifically volitional factor, that finds its counterpart on the

sensory side in the incorporative act, which is similarly a voluntary attitude of acceptance or sanction.

The conscious relations of the motor procedure are worthy of further delineation from a somewhat different angle. The lowest type is that by nature removed from the consenting initiative; for this, reflex action is the accepted term. When the tendon below the knee-cap is struck, my foot jerks forward. I do not move it, I simply feel that it has moved. If an electric current is passed through the proper nerves, my eye-tooth is exposed by a raising of the upper lip. I know how it feels when I give a snarling expression to my face; and thus I know that my muscles are so set, even though I have no sense of inducing this expression. Such actions go on by service of my neural dispositions, but without reference to my will. When any one creases rough paper between the finger-nails, it sets my teeth on edge; and when I am over-tired with anxious work, my left eyelid twitches. I am very definitely aware of these feelings, and I am thus sensitive through some trick of my nervous system. But my initiative does not and cannot bring on the cold shivers or the fibrillar twitchings. Clearly, many forms of expression normally dispense with the contributory will-impulse. The converse relation presents the retention of control over muscles that indeed obey

the will, but return no report of their obedience. In such a condition — the consequence of specialized lesion of the nervous system — a mother may be able to hold her child upon her arm so long as she visually takes charge thereof; but with her gaze directed elsewhere, the arm may relax and drop the child, and not inform its owner of any change of posture or diminution of effort. The visual support that in this abnormal instance regulates the movement, in ordinary cases contributes an essential factor to the composite guidance; for the skill of the hand reaches its highest expertness under visual training, just as similarly the accuracy of the voice is determined by the sensitiveness of the ear. In consequence of this double regulation, the failure of the one guiding mechanism does not debar the action, but throws the dependence upon the other guidance. In such manner my muscles have incidentally learned to write; and I can write (with loss of skill and precision) with eyes closed, and could with proper devices continue to do so if I were to become blind. Those who lose hearing continue to speak by service of the incidentally trained muscles of the vocal mechanism. These precise and organic relations of dependence and unfoldment are important, as well for the comprehension of how normally we command the machinery of our conscious expression, as for the manner in

which this efficiency continues subconsciously in normal and in abnormal procedure.[1]

The sense of initiative may well be regarded as the most enduring, most elemental expression of our individuality. When we yield this, we give ourselves over to that other world of personal loss, the idle drift of Nirvana, the soulless automatism, the irresponsible realm of dreams. Accordingly, within the normal range, subvoluntary action is ordinarily limited to quite transient abstractions, — short but deep gaps of orientation, — during which the momentum of an initiative already installed is continued; or, favored by the natural solicitations of an appeal sufficiently simple and familiar to find subconscious access, the

[1] Of special interest in this connection are the movements concerned in the expression of the emotions. These probably are enlisted for such service by the very fact that they represent but the slighter and derivative by-products of more urgent economies. Quite bluntly stated, the dog's tail becomes a sensitive measure of his joy and dejection, because that organ is not involved in more vital service. Similarly, the highways of emotional expression have close physiological affiliations, are neither capricious nor mechanical, and are subject to voluntary interference. The blushing of shame, the reddening of anger, the frowning of perplexity, the clinching of teeth and hand in anguish, the more subtle expressions of a sense of guilt or of offended vanity, present variable relations to the realm of control. Affectation may conceal as well as summon such expression, though ordinarily with slight or pronounced deviation from the realism of the actual emotion. The exalted control or spontaneous appearance of these expressions in abnormal conditions of lapsed initiative is peculiarly significant, and both have been used as tests of the genuineness of such states.

response takes place under like inattentive attitude. To this type conform the great body of lapses and confusions that make up every ordinary collection of absent-minded doings; they are quickly detected, oftenest by the return sensation of their wrong accomplishment, or by similar sensory warning; they are momentary waverings of control by which actions are attracted into channels held invitingly open by familiar routine or by the suggestive appeal of a patent situation, instead of finding issue by plan and intention. Normal fluctuations in this respect will not be particularly pronounced, because the initiative is the natural point of concentration of the mental progression, and is not readily involved in the minor ebb and flow. To disturb this feeling requires deeper and more massive disturbances, more serious departure from waking alertness of response.

Interesting in this respect is the relative position that the contributory and consummating movements of the mind occupy in the temporal apportioning of our mental doings. Acquisition and elaboration are by nature prolonged, preparatory, reflective, incubational procedures that are maintained through the larger spans of our mental occupation. We read and think, listen and look by the hour, and demand some light and shifting appeal of this kind to afford recrea-

tion from the weightier concerns of professional activity. Efficiency, however, is the reserve test of preparation; and we are properly suspicious of prolonged periods of passive absorption without the frequent stimulus of practical response. There is a natural tendency to dwell yet a while in the receptive stage and postpone the day of action. We realize that effort lies in this consummating step. It is when our turn comes to speak and write and act that strain begins, conscious forces are marshaled, and the cumulative issues of long training are put to the final test. Convention solves many of our problems; complacency is convenient; routine is restful. Initiative calls for a more strenuous quality, and particularly in the field of mental construction demands the sterner efforts, the higher energetic alertness of the mind. The captain's attitude on board ship is quite different from that of a passenger: nor is this difference confined to the hours of his watch, nor to the moment of his giving orders; the entire background of his occupation, night and day, is tinged by the underlying currents of responsibility,—tensions of duty, that hold him ever ready for the crisis of action. It is through such interpretation that character becomes the expression of will, and that normal responsibility is gauged by the integrity of the sense of initiative as well as by the comprehension of the intent of one's

acts, — a conclusion that once more discloses how intimately initiative merges into a phase of personality.

To complete our interpretative survey, the several considerations may be converged upon the personal aspects of conduct. The most elemental provision for this phase of the psychic response is recognized in the formula by the presence of the favoring attitude; this, but slightly relevant in the simplest procedures, becomes ever more commanding, until in the highest achievements we require at once the persistent incentive of earnest purpose and the happy support of mood and condition. There is a large and variable implication in the bare fact that the tissue is alive, the mind alert. Through the development of such implications, conduct becomes expressive of something more than the play of objective forces upon an impressionable material; it reflects the individual responsive quality of the organism. The furthering attitude of such responsiveness leads directly to the personal quality of the developed mental procedure. We have to deal not with the impersonal fact that the eyes have impressed upon them certain orderly stimulations of form and color, but that *I see;* it is not that there are contractions of muscles going on in the hand, but that *I* am moving my finger. By definiteness of content and systematic interpretation in the first procedures,

and by the direction of consistent purpose in the second operation, the process is elevated to a place in the personal scale, is given a standing in conscious conduct.

Such awareness does not emerge as a bare sense of impressionability and a feeling of action; the most primary aspect of the procedure is the accompanying emotional tinge that goes out to the impression, and imparts deep significance to movements. "Expression" refers as naturally to the emotional flavor of our speech as to the reasoned meaning of the words. Acquisition awaits the motive force of interest, — a procedure that reflects something of the emotional warmth. Our mental processes are not those of a thinking machine, but are curiously warped, in spite of cherished ideals and stern training, by the subtleties of personal advantage and esteem; and the expressions of our complex individuality are woven through and through with the prejudices of our experience, the superstitions of our fears, the distortions of our desires. The personal life viewed by and large is the emotional life, that furnishes the deeper well-spring of our being. A flattering phrase, a disdainful word, a glorious vista, the sound of distant music borne on "the stilly night," an interesting "find," affect my consciousness deeply; and I tingle with the pleasure of the compliment, the smart of the insult, the æsthetic thrill,

the tender appeal, or the glow of discovery. My words, responsive to these situations, reveal my excited elation or my depression, my sympathy or my enthusiasm. Familiar as all this is, it is likely to fall out of notice in our close attention to the reflective and active aspects of the psychic life. Its profound importance at the present juncture lies in the fact that the emotional accompaniment of thought and conduct contributes so richly to the personal essence of experience; and hence that fluctuations of the emotional quality of the wave involve the deeper mutations of the self. The emotional life is equally continuous with the intellectual; the changes of feeling-tone impart as characteristic quality to the general undercurrents of the stream as do the minor objective and subjective occupations of the self. It is because out of these currents emerges the specific character of our conscious activities, reflecting so subtly yet effectively the qualities of their source; and because this massive substratum, which we find so deeply saturated with emotional elements, serves as the basis for the special trends of conscious progression; and finally for the further reason that this emotional suffusion carries with it the intimate flavor of personal welfare, that the emotional fluctuations stand as integral and pervasive influences of subconscious participation.

We seem thus able to account for the dual constitution of each moment of personal consciousness. Conformably to the general conception, the self-feeling of the moment will be constituted by the special form and direction of the dominant awareness, reared upon the general massive, ever-present composite of influences that determine the underlying tensions and relations of organic dispositions. I have large generic self-feelings from which I do not wholly escape by refuge in the specific absorption of a conscious pursuit. Not alone is the success of my morning's writing dependent upon the soundness of my night's sleep, the proper digestion of my breakfast, the absence of household cares, or of disquieting news in the morning's mail, or of other undercurrents of concern, the leisure of a free period undisturbed by interfering obligations; but it is equally dependent upon my long-incubated preparation for the work, upon years of special interest, months of note-taking reading, the general trend of my views of life and mind, to say nothing of such practical spurs as that I must make progress to satisfy my ideals or the publisher's appeal for more copy. I can never get away from the enduring sense of personal continuous development and identity that forms the background of my special activity, however that may be directed. It is accordingly because of the complexity of factors

that enter into the self-feelings, independently of the incorporation and initiative of special occupations, that it requires more organic lapses to invade the field of self-consciousness. Such invasions belong to the abnormal rather than to the normal varieties of subconscious procedure.

II

THE SUBCONSCIOUS AS ABNORMAL

The conception of subconscious function, framed primarily with reference to its fundamental and serviceable rôle in the psychology of the normal consciousness, is now to be applied to the abnormal field. The standard of mental procedure may be said to involve a normal individual acting in a normal state of mind. The diversities of temperament representing variations of degree of dependence upon subconscious participation enter familiarly into the psychologist's range of interests. When sharply differentiated, these present an exaggerated dependence upon and command of procedures that thrive as the more implicit and feebly articulate activities of the psychic life; and in the opposite type present an unusual immunity from such reliance and the consequent fully alert and circumspect habit of behavior under the high lights of explicit consciousness. We draw, after our several manners, upon subconsciously matured resources in support of deliberately constructive efforts, of definitely set problems, or of less strenuous yet purposeful endeavor, all in fair conformity to the normal procedure, and

with variable success. There is an irregular sequence of fat and lean, of unanticipated fertility and disappointing failure, of crops modest but reliable and others more uncertain. In regard to the average yield and the slighter shortages and profusions — the middle registers of deviation from the normal — we are not over-curious. We have come to accept the diversities of minds and the fluctuations and limitations of our own mental instrument as a familiar lot in the natural order of things; to realize resignedly to what extent our individual gait in its ordinary excursions, and in its occasional more ambitious flights, leans upon favoring mood or the pressure of circumstance, with what temperamental dependence we await or encourage the auspicious conjunction of quite mundane influences to bring to fruitage what we feel that our estate has the possibility to bear; or in more homely phrase, how reliably the domestic nag suits his pace to our interests, and submits to bridle and spur, — a discipline that we might hesitate to apply to a more high-spirited Pegasus. Marked immunity from such dependence characterizes a type of mind that conducts soberly and circumspectly its step-by-step advance; such steadiness of gait, well-regulated command of accumulated detail, neatly pigeon-holed availability of resources, clear logical working of trained facilities, fit their possessors for tasks of great

practical utility, and not improbably for enterprises vast and complex, which for the most part is what the world requires and rewards. Such a reliable flow from a steadily fed spring, with slight dependence upon occasional spurts from more uncertain sources, suggests a matter-of-fact, not over-sensitive temperament, whose fluctuations seem well controlled and rarely extend beyond predictable limits,— a mind that bears steadfastly to outlined purpose with no unnecessary soaring to higher realms for wider outlook, and not much loitering by the way. It suggests a temperament, — clearly not a deficiency, — and for many lines of endeavor, indeed, a favoring talent; it suggests, moreover, a mature, sedate, adjusted type of procedure that has outgrown, so far as it may have ever deeply experienced it, the storm-and-stress unsettlement of youth — and finds expression in manifold grades and shades among all sorts and conditions of men.

The notably emphasized dependence upon subconscious facilitation is naturally more interesting to our theme, and presents, by contrasted deepening of shadows and raising of the high lights again, a temperament, an individually characteristic mode of bringing forth, under massively complex influences, the special issues of our several talents. The larger and deeper fluctuations, the more vivid imaginings, the more intensive responsiveness to

mood and condition, the readier falling back upon inner and vaguely sensed relations, the acutely developed impressionism of appreciation and judgment, the youthfully tempered and emotionally guided striving for the higher ranges of achievement, — all these other halves of the conditions for successful endeavor may be developed to the disparagement of their contrasting counterparts, and thus mould a mind to exaggerated, and yet withal normal dependence upon those undercurrents of resource and dispositions of temper that have been shown to constitute the groundwork for subconscious facilitation. We appreciate, moreover, that the mental realm within which such susceptibility to sympathy of mood and to the oscillations, even the caprices, of a high-strung disposition is most characteristically displayed, is that of the emotionally prompted and imaginative phases of our being. The greater dependence upon favoring moments, in occupations that unfold the inner harmonies of the sentimental life; the greater need of "inspiration" in composition that proceeds by fancy rather than by logic, by deeper drafts upon the undercurrents of sensibility, that only in the master spirit become articulate; — all this suggests the temperament in high or low degree, that relies largely upon the deeper resources of a sensitive nature, that readily forsakes effort for intuition, at times building far better

than it knows how, at times obstinately unprogressive.

The poet, the dramatist, the artist, the musician, and many another devotee of the muses are in this aspect of a nature all compact; yet the common emotional source of their creations, though intimately characteristic, should not be construed to exclude logical procedures from such dependence. On the contrary, these reasoned types of specialized facilitation are enlightening in that they serve to verify circumstantially the subconscious procedures upon which the talent depends. The chess-playing, memorizing, and computing prodigies present the most notable instances of such talent. While our knowledge of the methods of these virtuosi is quite defective, — and the performers themselves conduct their operations so subconsciously as to contribute little to our enlightenment, — it may be plausibly maintained that the amazing proficiency of these prodigies is built up upon a native disposition, upon a pronounced vividness of sense-imagery, and upon an extensive command of familiarized material. Arithmetical prodigies, along with painters, poets, and writers, are apt to project a situation in a brilliant visual image, as remarkable for the scope and complexity of details as for its accuracy and ready command. They see as on imaginary blackboards, or like the fleeting exposure of a picture

thrown upon the screen, the partial resultant of their complex calculations. With closed eyes and a strained inner vision, they build up their constructions with large inclusive spans of procedure, so suppressedly reasoned that results seem to follow upon premises by some prompted insight, and equations yield their solution as in a flash. By extensive and intimately familiarized material held ever ready for service; by passionate and incessant devotion to figures; by ceaseless rumination over primes and squares and roots and products; by facile devising of short-cut procedures that bring result close to premise, there is acquired a great mass of "understudied" material, mental tables of predigested results, in the manipulation of which formulated procedures come to play a decreasing part. The planning and the sectional construction are, in the main, consciously directed and consummated, and are supported at every stage by the minor operations facilitated to the point of mechanical automatism, and filling in the niches of the construction as fast as they arise. Moreover, effort accompanies the task, and in some fair proportion to its unfamiliarity and intrinsic difficulty; in brief, the result, however notable, maintains an intelligible relation to the normal type of antecedents, and may thus be included within the instances of exalted facilitation dependent alike upon temperament and cultivation.

The process of "crystal gazing," though a less deliberately cultivated talent, equally depends upon a vivid supporting imagery, in conjunction with a peculiarity of favoring disposition.[1] Such projections appear not under constant control, but are facilitated by effort, and seem to find their favored material in just those incidents that are received in the indirect field of mental attention. The process also demands an attitude of withdrawal from ordinary solicitations, that furthers the emergence of subconscious impressions.

Abnormal psychology finds its material in deviating states, presenting in their composition a departure in degree or nature of the component factors of the normal attitude. The significant deviations extend towards the pronounced lowering of such purpose in the idler drifting of revery, and again, in the opposite direction towards the sharpened concentration of effort upon a unified endeavor, which in turn may take the form of an objective occupation or of an inner thought-construction. It is not unnatural that superficially the two attitudes bear sufficient resemblance to be included under a common name. Both are varieties of abstraction; which term derives its pertinence from the fact that what the mind draws away from is the general appeal of miscellaneous solicitation: what remains undecided is how far the

[1] A reference to pages 102–107 will be helpful.

motive of the withdrawal suggests the luminous energy of the focused sunbeam, or the nebulous dispersion of a misty atmosphere. More significant than the mere fact of seclusion is the manner of occupation of the cloistered soul. The extreme over-intentness of effort may reach the phase of rapt ecstasy, a complete absorption in ideal contemplation, the issue of which, if not too passively conducted, may be the inception of a notable creative effort, a supreme concentration of a mind saturated with a definite purpose upon the solution of a long-cherished issue. The "brown-study," "wool-gathering" period of vacancy is a very different blending of the tints — though possibly selected from the same portions of the spectrum — that brings the "abstracted" subject near to the realm of dreams. Yet the wavelike character of the most intense, as of aimless occupation, provides for "troughs" of recedence preparatory to "crests" of advance, — a refreshening of energy, as it were, by a plunge into the subconscious stream.[1]

[1] In a suggestive essay Dr. Georg Hirth proposes the query "*Warum sind wir zerstreut?*" (1895), and pertinently remarks that there are two kinds of "*Zerstreutheit:*" the absent-mindedness of the professor (*Gelehrten-Zerstreutheit*) is the insensitiveness, through inner absorption, to practical appeals; the absent-mindedness or distractibility of the pupil (*Schüler-Zerstreutheit*) represents a converse type, in which every trivial objective solicitation withdraws the slender attention from its task. Dr. Hirth, waiving the implication of the context, adds that monkeys seem to pass the whole of their lives in just such distraction-welcoming occupations.

When we abandon the normal attitude and are faced dreamward, we meet the obligation — already absolved — of appraising the quality of the transformed perspective of the new vista, and again of tracing more analytically the development by which the ensuing stage acquires its differentiating traits. For such purpose we may profitably recall the transitional feeling to which we yield when we invite revery, and float with the stream. What ensues in this "letting-go" period is the fading away of the outer world under a release of active tension, a dismissal of responsibilities, a passive acceptance, even a callous unconcern towards what may come, a surcease of energy, the end-of-day attitude of slippered ease in a drowsy revery by the fireside. Important in this transformation, in its larger features as in detail, is the fluctuation of debits and credits upon the two sides of the ledger; what is plus in the one field is minus in the other. Accordingly, the time and place and circumstance of revery are chosen to diminish or dismiss the appeal of outward stimuli: the gathering dusk, the calm of solitude, the soothing familiarity of surroundings, a restful quiet, or at most the monotonous tick of a clock, that marks time yet carries no message that needs decipherment. These negative dispositions release the mind for inner promptings and bring forward the undercurrents

of concern. Presumably, a similar reversal within the sensory field becomes notable; and as outer attention fades, the organic feelings take possession. They may color the mood of our meditations, and if positive in tone, direct the currents of thought. Indisposition similarly asserts itself; a headache, that is struggled against and kept down during hours of duty, throbs with renewed agony as we at last yield to its urgency. The feel of our body and the fluctuations of its condition surge up more distinctly as we dismiss the outer world; and their presentative dominance furnishes an ingredient in the stuff that dreams are made of. As the outer worldliness of occupation withdraws, the inner regrets, disappointments, forebodings, that we escape in active absorption, return. For we drown our cares in work or recreation; and the chief rivals of purposive occupation — at times most troublesome to dismiss — are these same distractions of the environment and the cares or interests of personal concern; with the abeyance of conscious direction, these refused claimants push forward and fill the forum of the inner life. Revery, which is in part the reinstatement of the subconsciously sustained and consciously restrained interests, in part the refreshening or compensation for our sterner moments, mingles with the trends of the mental progression, whose deposits of associative material it builds

upon, but puts to new uses, and changes the values of whatever it touches.[1] In such change the dominance of the emotional promptings — ever deeper and less explicit than conscious expression — may give the keynote to the musings. The laying bare and the moral accounting of our motives seek their confessional hour when the breadwinning activities are dismissed; and the night-thoughts take on their reflective, repentant, resolute, yearning, or prospecting mood. Long before we sleep are our minds attuned to dreams.

In dreamlike states the waves of strenuous activity recede; and the ensuing calm is broken only by an occasional gust, bringing back, as by a veering wind, the currents of the day's occupations. Such change of conditions involves three aspects: the activity of the sensory dispositions, of the associative procedures, and of the modes of response. The formula for the dream of ordinary sleep presents a simple combination of values; the outward sensory dispositions are so nearly hushed that their direct contribution is but occasional; the bodily sensations at times reach a preponderant influence, but as a rule are not as determinative of the issue as the elaborative procedures that

[1] It is needless to carry out this relation in detail, as the dreams themselves so clearly disclose them. The pertinent analyses will be found on pages 177–180, 211–214, and 219–251.

weave the slender incidents into a fantastic tale; in normal dreaming we are quiescent, with senses and muscles both inactive, with eyes only for the stage of the mental theatre. Yet any inclination to regard all dreaming as thus passive, introspective, unrestrainedly imaginative, will at once be dismissed when we regard the variants of dream-states. In these the values and relations of the three components may be moderately or decidedly altered. Ordinarily, the transition from dreams to waking restores all three of the mental activities to the normal status: as the dream-thread snaps, we find our place in the waking world; we are alert to our surroundings, take charge of our directive opportunities, and resume life under the dominant interests of our composite nature. The opening of the eyes is so intimately associated with this transition that we should regard it as quite abnormal for the distinctive movement of dreams to continue after the curtain is raised upon the world without; or that the individual, thus coming into possession of his own, should fail to take advantage of his privileges. Yet transitional dreamlike states — possibly but moderate deviations from ordinary dreaming — exhibit some encroachment of the one field upon the other. In such incomplete wakefulness there may appear the play of the waking directive mood upon the dream-content, or of the dream-manner upon the material

presented to the waking senses.[1] The dream-trend for a little continues in the real world; or the dreamer, now awake, sees pictorially projected into space the construction of his dream-vision, or hears, as if borne on outer air, the voices that spoke to him in dreams.

A quite different departure from the standard formula of dreams, and naturally with some resumption of waking characteristics, appears in the somnambulistic or active dream,[2] as well as in delirium, and through the agency of the differential chemistry of the psychic poisons, as they play so subtly upon the finer elements of the brain's structure. In somnambulism the eyes may open and yet not arouse the directive consciousness, or arouse it so feebly, so partially, that only the more automatic facilities, well schooled to humbler service, are enlisted in the dream-imposed quest. The elaborative procedures are clearly no longer those of revery, but have shifted more nearly to the opposite type, — of concentrated purpose; and the whole becomes suggestive of the hypnotic state, which the formula more naturally reaches from the opposite direction. In other words, if

[1] This formula becomes variously applicable to the group of incidents recounted on pages 182–187, 223–230, and 235–237.

[2] The simplest form of active dream is that in which the natural accompaniments of thought or emotion break over into expression. Such incipient somnambulisms appear in incidents scattered throughout the section: pages 222–265.

the natural accidents add active possibilities to a dream-state and yet leave the dreamer asleep, there is somnambulism; and if by an artificial interference, we curtail the possibilities of waking control without involving the complete disqualification of sleep, we have induced hypnosis. The two resulting states, though retaining differential traits, have thus approached and met upon common ground.

Similarly, whether the condition aroused by opium, hasheesh, mescal, alcohol, nitrous-oxide, or ether shall best be described as a waking state, disqualified from its full measure of normal scope, or as a dream-state that does not involve the complete transformation characteristic of the dreams of ordinary sleep, is an issue to be differently determined in each instance. The anæsthetics quickly take one into sleep and beyond the realm of dreams; but in their onset, and as the incapacity lifts, dreams arise displaying the typical mental movements, the sources of *motif* within and without, the manner of their embellishment,—all in accord with the formula of dream-revery. The automatic stage may appear in the transition to full awakening, and the senses be aroused, and significant movements and speech be available, while yet the personal allegiance is to the dream-world.[1] Delirium offers a related status of domi-

[1] Such cases are given on pages 242 and 244, and related ones on pages 238–245.

nance of subjective fancies in a troubled sleep, giving way at intervals to wakefulness, into which the imaginative creations are projected as hallucinations, that may lead to speech or action in pursuit of a dream-imposed quest or in recoil from impending calamity. The victim of alcoholic delirium lives much nearer to wakefulness, if not actually in it; his delusions give strange distortions to the actual objects of his visions, though in part they are not objective at all, but mere projections of an excited brain[1] acting with impaired control and incoherence. The opium dream may present the entire range of transition from waking orientation to capricious revery. There may ensue long periods in which, as soon as the eyes close, phantoms appear and play their parts in confusing transformations, to be dispelled instantly by occupation in objective interests. In other cases, the hallucinations work their charms upon the environment to which, as most characteristically in the mescal intoxication, the subject remains rationally responsive. He observes and records the successive transformations of the wall-

[1] The description at once recalls the phenomena of actual insanity; for certain of the oppressions clearly invade the waking hours, project their hallucinations into the living world, impose delusions, imperative ideas, and incoherent trains of thought, impair the will, and drive the impulses to irresistible actions, thus wrecking the self or disabling it so long as the tyranny endures. The same considerations have aroused the comment that if we were to act out and credit our dreams, we should be rated insane.

paper patterns, or the colored effulgence of dull familiar objects, appreciating well, though possibly with some alarm, that it is all a trick of his poisoned brain-cells, despite which he retains fair control over his reflective processes and the organs of his will. In yet other stages the opium-eater is more asleep than awake; and the dream-reveries, though persistent and recurrent in theme and of one pervasive mood (like those of the delirium of fever), are unmistakably reveries with little projection into or intrusion from the outer world. The altered values of perceptive, elaborative, and active factors in these deliriant and intoxicant states thus run the gamut of excess and defect, combining in versatile permutations the several characteristics of the waking and of the dreaming self.[1]

In following the outlined plan of presentation, the relations of states of abnormal concentration should be next surveyed. It will, however, be more helpful to indicate at once the common conception to which the varieties of mental abeyance as well as of distorted waking conform. Such a principle is found in dissociation, which refers to the partial presence, with impaired relations, of factors normally fully associated and integrally coördinated. In this view, dreaming itself is but

[1] The descriptions most pertinent to the phenomena thus referred to are to be found on pages 237–244 and 252–262.

a phase of such dissociation, characterized by dominance of inwardly prompted elaboration and feebly responsive perception, along with quiescence of the active will and closure of outward senses. Dreamless sleep would represent the more complete abeyance, — with sense and thought and will, all suspended, or as nearly so as the depth of sleep permits; while dreaming, true to its connection with the lighter moments of sleep, is already partial wakefulness. As on the one side there is abeyance, there is on the other special excitation that resists sleep and stirs the brain to activities beyond the natural vigor, or forces upon it perceptions, thoughts, and impulses which it imperfectly resists. The mingling of dream-revery with waking construction, and the imposed disturbances of excitement, appear in the varieties of drug-intoxication; such states again represent dissociated procedures, that combine in abnormal manner partial loss with partial retention; dream-projection persists in clear vision, dream-sequences intrude upon waking life; or the dreamer regains in part the power of action without full orientation, or is haunted as he moves in the one world by the spectral inhabitants of the other. Finally, there is intimately characteristic of the conscious life the distinctive factor of directive action, of an adjusted attention, of a logically regulative procedure; while similarly characteristic of subconscious par-

ticipation or dominance is a mental progression whose close affiliations are to the more spontaneous, unrestrained, inward dispositions, that appear most independently when their powerful rivals in the psychic life are in abeyance. In the light of such contrast, the allegiances of dreams and of waking help to determine the boundaries of the conscious and the subconscious domain.

The acceptance of dissociation as an explanatory principle incurs the obligation of defending its pertinence and of developing its theoretical status. To this end an intimate survey of the implications of normal experience and a return to certain fundamental analyses are alike necessary. The standard procedure — that of a normal individual active in a normal state — implies an environment, in adjustment to which such activity is conducted. The waves of stimulation and response as they surge through the nervous system set up a train of concomitant sequences, the nature of which is revealed only to an inner observation. The full complement of "privileges" which a developed conscious procedure entails, may be grouped about three central phases: the first, a subjective orientation by virtue of which the wave finds a place within the organic system along with other waves and their reactions upon the common stream; the second, an objective orientation, through which it gets a setting in con-

dition and circumstance; the third, the intrinsic energy that imparts to it the distinction of being a wave. A supplementary illustration may be helpful: A festive procession of vehicles passes along an avenue lined with houses and trees; at a given moment a certain one crosses the field of vision and thus occupies the foreground, and does so as a member of a series; its motion is relative to and is projected against the stationary background of houses and trees; and its motive power is efficiently at work to carry it along. When a mental movement takes place, it involves a definite content in the foreground, that in turn is but an incident in a procession, involves secondly a background in relation to which the movement finds its bearings, and finally, an effective impulse to maintain and direct the progress. These implications when thus simply and objectively reduced, are obvious; but when translated into the intricacies of the organic life of the mind, their more complex embodiment is by no means easy to decipher; and the difficulty is inherent above all in the distinctive feature thereof, by virtue of which the whole becomes a conscious procedure; for it is the privilege of the psychic experience to arouse a realization of its place in a series, and of the background that it is passing, and of the fact that it is moving: such realization involves the conception of a conscious self.

For definiteness of reference, I speak of the three "privileges" of the mature psychic procedure as incorporation, orientation, and initiative. Accordingly, the present movement of my pen in writing (in addition to the content, import, and form of the result) is something of which I am amply aware as it proceeds, and not as a detached act, but as complexly bound up with the evolution by which my individual self with all its accumulated experience has reached this particular juncture; further, the writing is going on in familiar surroundings to which I retain an undercurrent of adjustment, and is adjusted also in a time-series in which objective events intricately enter; and in turn I am aware that I must maintain my thought and my hand in fitting energy to keep the pen agoing. Thus the fully privileged conscious act involves not alone the specifically defining content in terms of direct receptive processes, and concrete associative affiliations, and the availability of muscular channels; but its status implies the infusion of a certain quality of bearing into what these components furnish; and this overlaying envelope is the integrating consummation that gives to the whole its standing in the psychic life. Incorporation, orientation, and initiative are subject to the fluctuations that beset all phases of the mental movement; their presence varies in terms of intimacy of the relations that they

establish, and above all in explicitness. But however feebly availed of in the actual procedure, the fact that the privileges of such incorporation, orientation, and initiative remain open, and that the act and its setting may instantly be acknowledged as one's own, and be given a local habitation and a name, stamp the movement as normal and integral. In the slighter deviations, a momentary confusion, the need of wider alertness, may intervene before the privilege is rendered available; in the more serious ones, a real change of state; while in the most involved abnormalities, the privilege is regained but intermittently and upon the basis of strenuous reconstruction. The formula of dissociation thus refers to conditions in which waves flow through the nervous system, arousing handicapped types of sensibility and responsiveness, but are deprived in various manner of their normal associative privileges. Sensibility is present, but in certain areas does not achieve normal incorporation; the outer world makes its appeal, but orientation to it is defective and liable to lapse and distortion by subjective intrusions; the muscular contractions combine in significant conduct, but the initiative of a personal guidance is weakened or suspended. The fact that a selective range of activities continues, proves to what extent there is retention of organized functions; the fact that such activities are

debarred from the full measure of their normal implications, indicates the manner of loss that is entailed. And inasmuch as any change of status in the personal quality of conduct — by partial detachment of a wave from the stream — reflects upon the specific manner of its flow, it follows that the disintegration of a dissociated state affects at once the receptive, elaborative, and expressive content of conduct, — its formal progressive steps, — and concomitantly, the privileges of normal affiliations with the unifying achievements of a developing mind. From such generic basis, the specific types of retained but handicapped functions, and equally the relations of the curtailments or losses, must be consistently derived.

An impairment of the incorporative privilege implies a state of mind in which the psychic movement persists, but without attaining normal acknowledgment. Though we recognize how selective is the incorporative activity, — for we absorb but a fraction of the varieties of stimulation by which we are incessantly assailed, — yet a pronounced disqualification of this natural privilege, a notable restriction in this particular, clearly can no longer be regarded as a normal mental attitude. Anæsthesia is the practical symbol of such loss, yet not primarily of the physiological variety involving deeper injury to brain-cells, but of psychic exclusion through an abnormal attitude, — an

exclusion always selective and partial, and significant by the contrast of what it retains and what it rejects, as well as by the manner thereof. Total anæsthesia implying a nearly complete depression of the mental wave is not psychologically instructive. To render a man sense-less by making him equally thought-less and will-less seems a natural issue of a serious disqualification; for we meet it in stupor, in fainting, in the shock of a blow upon the head, in the overpowering by chloroform; and though we may not wholly understand why this ensues, it is sufficient for our present purpose to appreciate that our brain-cells are so disposed that their activity may be thus suspended. In psychic anæsthesia we are called upon to recognize a disqualification of more partial character, and yet inherently of no more mysterious nature; here the wave courses through the nervous system, but without establishing as it goes those ramifying consequents, concomitant issues, — or however we choose to picture the process, — that give rise to conscious incorporation, but are yet registered, as we have seen, by some lower or detached type of procedure.

Psychic anæsthesia finds its simplest embodiment in the restriction of the field resulting from pronounced abstraction; and this again is either a more general exclusion of all but the one focused area, — such as the thinker immersed in his prob-

lem and oblivious of all else, — or is of a more specialized type, — such as the individual whose conviction that he has forgotten his umbrella is so unquestioned that he fails to perceive the article securely held under his arm. Such lapses — partial or miniature failures of incorporation of impressions that attain a lower order of response — we have abundantly reviewed. The psychic anæsthesia of the natural somnambulist is similarly a natural issue of his half-awakened mind; his peculiar limitations of awareness reject everything not immediately pertinent to his contracted occupation, even to an insensibility to the light of my match, while lighting a candle with a match of his own providing. The trance-state is again selectively, in some directions exaltedly, responsive, while yet mindful of other phases of the world in which it moves only in that unacknowledged fashion that must be regarded as a maimed, curtailed incorporation. The same is true of hypnosis; here the replacement of spontaneity by imposed suggestion offers more definite experimental proof, and brilliantly discloses the manner and measure of the impaired incorporation, which even when seemingly insensitive and unresponsive, paradoxically yields the recognition of what it ignores. The anæsthesias of hysteria by their more systematic status and emotional reënforcement become the classic exemplars of this elusive but fascinating

group. Paradoxical and capricious in the inclusions and exclusions of their responsiveness, there is yet method in their subtle madness, that like diplomacy, conceals more than it reveals. In the still more personally pervasive disintegrations of the mind, the detachment of the seceding state from the awareness of the life of its alternate — which may be one-sided or reciprocal according to the nature of the dividing lesion — carries the anæsthesia to its most intricate development. Throughout the series it plays a directive part, and establishes a failure of incorporation, as a typical sequence of abnormal concentration. Of peculiar importance as evidence of such loss of privilege is the failure of registry by the incorporative self, and equally the indirect registry that ensues in spite of the psychic nullification; while the contradictions which the altered consciousness is forced to tolerate in order to keep faith with its imposed anæsthesias, yet further intricate a decidedly complex situation.

The loss of orientation suggests a deep-seated impairment, a decided breach with normality; it involves an out-of-relationship with the deeper implications of experience; and its interpretation bears closely upon the allied philosophic issues. It proposes the problem of subject and object. While I may be assured that my knowledge of the objective world is but the restatement of my

mental responsiveness, I yet insist upon holding apart the mental constructions founded upon fact, from those whose origin is prompted by the more spontaneous energies of the same psychic endowment that reveals to me the world of matter. Stated more simply, I know the world without, which in a very true sense is a world of my own construction; and yet by exercise of the same privileges, I know the more intimate mental world in which my imaginings hold sway; while in addition I recognize, as in my practical behavior I utilize, the relations of the one to the other. Unless I hold apart the world of fancy from the world of reality, I jeopardize my practical sanity. I must ever distinguish between my inventions and my experiences, my memories and my fancies, my hopes and my observations, my intentions and my deeds, and most decidedly between my dreams and the waking reality. Illusion, hallucination, error, fallacy, are common enough; and a considerable range of deception is the common lot. We are ever ready to eke out vague perception by subjective contributions, as the comprehensive range of illusions, normal and abnormal, abundantly illustrates. So long as in normal situations we hold the two apart, and yet realize the transitions from one to the other and their reciprocal reactions, we may be said to orientate our momentary mental occupation to the momentary environment. Vary-

ing with the attitude of such occupation, the orienting process will assume variably explicit or distinctive form. In receiving a sense-impression, I follow it with an immediate judgment of the status thereof; I not only see the chair, but decide that it is a real chair, occupying actual space, and not a painting or a reflection or an hallucination; and when I exercise my will upon the object thus presented, I expect the latter to exhibit the behavior natural to the physical world. If I make a proper lifting effort, I expect the chair to rise; and if I let go my hold, to see it fall. I thus constantly, however undesignedly, verify, experiment with, and anticipate the relations of the material world, and in accord therewith shape my practical tendencies to thought and action. Even in my most thought-centred attitudes I maintain such supporting, though subdued relation to my environment. When my orientation fails, it presents a confusion in some measure between the inner and the outer world. Yet the awareness of such confusion will emerge only so far as I maintain relations, however enfeebled, to each, and recognize the subjective by contrast with the objective. If all my impressions remain of one consistent type, they constitute for the moment my world; I am in that world and of it, and questions of reality do not arise. Such experience is convincing; and though it may be subjective, it is not

subjective to me until I have some other standard of reality by which to feel it so. To me, while dreaming, my dream-experience is real, quite as real, even more vividly so, than the incidents of my more critical wakefulness; and it is a dream only to my awakened judgment. Conversely, I may be the victim of a realistic and terrifying hallucination, and yet recognize its true origin by observing that my hallucinated image does not behave like the rest of the world against which it is projected. The shadow that moves across the background proves the nature of the one as well as of the other. If I have so excited my brain-cells by alcohol, or mescal, or hasheesh, that they react by calling forth things of fancy, I yet realize their unlikeness to the things of solid flesh, because despite my subjection to the drug, I am awake to these outer solicitations.

A characteristic state of disturbed orientation thus inclines to a confusion of subjective and objective, the intrusion of an inwardly prompted impression into an outward situation; in other words, a pseudo-perception or hallucination. For there are but two sources of the mental impression; and what is not garnered from without is contributed from within. The problem is twofold: the conditions under which such hallucinatory images arise, and their mode of affecting orientation. Our knowledge in regard to the first is so

beset with hypothesis that it seems better to waive ultimate solution, and provisionally to recognize a condition of over-susceptibility within certain groups of brain-cells as a disposing condition of hallucinations. Such peculiar disposition is clearly favored by temperamental constitution, is induced or facilitated by the specific action of drugs, by the enfeeblements of fasting, insomnia, or fatigue, the excitement of intense anxiety, the instabilities of hysteria, or the disqualifications of hypnotism. Under these excitations, in their extreme forms overstepping the borderland of sanity, perceptions arise taking on the semblance of sense-conditioned appearances. The source of the phantasm is always subjective, though variously prompted. In hypnosis it is implanted by suggestion, and meeting with no hindrance to immediate development, springs into life with the suddenness and vividness of a dream; and like a dream, is necessarily credited because the corrective reactions to the world of reality are in both cases suspended. Hence the orientation is impaired, and is so, be it observed, not because an hallucination arises, but because it is credited; and is credited because the orientation to the environment is distorted from the normal perspective. The brain excited with hasheesh or mescal reacts by projecting visions; but as these are recognized as such, the orientation is saved. Yet between retention and

loss, there intervenes in such psychic complexities a varied range of transitional, half-credited appearances that are coquetted with, partly as make-believe, partly as real, and possibly assisted in their forthcoming by an assenting inclination. When Dickens walked the streets with little Nell at his side, when Miss X. saw in the projection on the crystal screen a phantom Palissy tearing up garden-palings, when De Quincey's opium-drugged vision converted the legs of chairs and tables into loathsome reptiles, or when Dr. Mitchell, under the influence of mescal, saw an elaborate Gothic tower taking shape before his eyes, there was in each case a recognition of the subjective source of the vision, though the conditions under which these projections occurred were variously abnormal. But when my hypnotized subject leaps across the hearth-rug under the impression that it is a brook, or sees a photograph on a blank card; when Mlle. Smith encounters her "spirit" mentor in her daily occupations, or sees the projection of her Martian alphabet upon luminous air; or when Miss Beauchamp hears the taunts of her other self, and converts the reading of the actual words before her into wholly different and alarming messages, the orientation is variously interfered with, and the integrity of thought and action in some part sacrificed. Yet for the comprehension of the subconscious activities as abnormally displayed,

the transitional varieties of impaired orientation are equally significant. Here belong particularly the hallucinations of hysteria, and of the post-hypnotic state; and it is similarly by the projection of an hallucination that in cases of disordered personality the detached consciousness establishes intercourse with its dissociated mate. The most brilliant example thereof — because unaffected by waking complications — is furnished by the record of Mr. Hanna, whose dreams during his disintegrated period were of two distinctive orders; the ones, weak in tone and bare in detail, finding their origin in the handicapped mental life sequent to his accident, the others, far more vivid, being projections from the older, complete experience. These might equally well have appeared, as in other instances they did appear, during waking hours, while the impaired personality was in possession. By such subtle means the issue of a lapsed orientation takes the form of an hallucination, which arises from peculiarly disposed susceptibility, and makes its entry upon the mental stage in mimic semblance of a real performer. Such usurpation may be so systematic and extensive as to replace the one self by another, the real world by a fictitious counterpart.

Normal orientation is maintained by the constant application of a corrective judgment; and the lapse of such judgment, or of the feeling of

relation to which it may be reduced, constitutes a loss of orientation. That the exercise of such critical privilege involves a directive procedure, both active and personal in tone, is obvious; and that to such extent it implies the integrity of initiative may be anticipated. It is, however, pertinent to note that the active factor of such adjustment presupposes an open channel of sensibility, and that the closure of such channel gives the opportunity for the intrusion of the subjective movements of the mind. The critical judgment finds its natural application in the adjustment to outer relations; for both are phases of mental alertness. As we lose the outer world, we invite dreams. As the hypnotic consciousness is contracted to a narrow range of outer perception, it is the more at the mercy of suggested hallucinations. As the intensity and swirl of delirium enthrall the mind, the actual environment is obliterated, and the patient becomes the victim of his own fevered fancies; while in the more lucid intervals, the recovery of an undercurrent of orientation is tested at once by some recognition of the subjective tissue of the troubled visions, and by some interest in real stimuli. The lighter forms of impaired orientation may be no more than mere bewilderment, — the momentary doubting whether so unexpected an appearance can be real, or can come upon one while awake, which

means orientated to the world of reality. Yet its developed form invites and inevitably yields to hallucinations; and this for the very reason that the vacating of the field by the active outward adjustment is an abdication in favor of the subjective. Exclusion from the one world is immersion in the other; and it is characteristically in the moment of regaining the normal vista, after more or less prolonged immersion in the world of visions, that the loss of the critical judgment and the chaos which it entailed, become intimately felt. Yet once more, it is the confusion of the critical judgment in such half-adjusted conditions as hysteria and personal disintegration, through the paradoxical allegiances which they demand, that adds to the interpretation its most distinctive complexity, requiring in place of distinctions of retention or loss, discerning and intricate analyses.

As the mental wave sweeps through the nervous system to its natural consummation in action, its progress is in a measure sanctioned, assisted, or directed, not merely submitted to; and the loss of such controlling privilege may be described as an impaired initiative, — an issue that presents distinctive aspects according to the completeness of the invasion and its relations to disturbances of thought and sensibility. Its typical embodiment is an imperative impulse, an enforced action, or at the slightest, one partially detached from

the central stream. To complete the terminology in which *anæsthesia* stands for impaired incorporation, *hallucination* for defective orientation, there seems no apter term than *impulsion* for the lapsed or distorted initiative. Yet the impaired initiative is like the other defects, a psychic, not a psychological loss. There is no true paralysis, even though the muscles seem impotent, nor is the imperative impulse parallel in status to a twitch, or spasm, or epileptic seizure, discharging irregularly into muscular channels. The distorted action is still significant conduct, and the phenomenon is abnormal and complex, not in the main because the action is impulsive, but because being so, it yet proceeds with such high degree of logical pertinence. Though enforced, the impulses are intelligently maintained, and thus rightfully enter the psychic domain.

Referring to the normal analysis for the relations of the sense of initiative to the return report and direction of the accomplished movement, it will be sufficient to bear in mind that so abnormal a procedure as automatic writing, while in all cases involving a lapsed initiative, may or may not proceed to further implication of loss of orientation and incorporation. The hand may write automatically while its owner is unaware of its projected expressions, and yet may feel the movement and may read the record as it proceeds, —

all the while fully alert to his surroundings. In acting out a post-hypnotic suggestion, the subject may display closely allied powers. Yet some individuals cannot command automatic writing without first going into a trance that entails to some extent a loss of the actual objective situation. The trance-state is in this respect quite variable, and is compatible with almost all varieties of orientation, from full responsiveness to the environment to complete exclusion therefrom. Quite characteristic of the fully privileged initiative is the feeling of intention that precedes, by an instant or longer, the actual execution; it is with the presence of this factor, more intimately than with any other, that there arises the feeling of freedom as well as of personal motive. This has altogether disappeared in developed automatic writing, as also in any activity of similar status in which the performer regards his action as an interested spectator would look upon an intruded control of his muscles from some source outside himself. In the slighter departures from abnormality there is hardly an actual impulsion; for the procedure involves an assisting though not directing disposition. Yet the impaired initiative, even in such alert states, is apt to bring about some measure of anæsthesia, — an issue that accords with our general formula.[1] It has been verified that frequently the

[1] See pages 116–139, and page 285.

hand that writes automatically is insensitive; and that in the "table-tilting" of the spiritualistic séance, the muscles of the arm are often tightly tensed without arousing an awareness of their contraction; indeed, the subject remains quite convinced that his energy is in no way responsible for the (to him) uninitiated movement. It is thus clear, in the light of the abnormal data, that the impaired initiative is of all the factors the least likely to become effective in isolation; its enfeeblement is prone to involve similar defect in incorporation (anæsthesia) even when orientation is retained; and the development of its more pronounced forms requires so profoundly dissociated a state as to subject the entire range of privileges to ready forfeiture.

The most typical form of an impaired initiative is one that substitutes for spontaneous action an impulse imposed from another source than the directive will. The resulting phenomena differ mainly according to the origin of such impulse, and to the state upon which it is intruded. In somnambulism it arises in the subconscious strata aroused to activity by some dream-like quest; in hypnosis it finds its largest field of application, because the removal of initiative is here so nearly complete that any suggestion, not too violently incompatible with the subject's normal behavior, finds the muscular channels for its execution at

command; while in hysteria the impulses arise through some detached subconscious susceptibility, which enforces its intentions in spite of a seemingly alert will, or upon some other phase of the joint personality, which, without share in the plans and intentions, finds itself driven to a definite action by an imperious impulse. The subject's own awareness in such a situation is clearest in the post-hypnotic state, in which frequently he is alert enough to appreciate the inconsequence of his act, and yet can find no peace until the haunting impulse is appeased. In so complex a disintegration as that of Miss Beauchamp, the serious conflicts and perplexities of her life are largely due to the bondage to these impulses, frequently initiated by one of the partial personalities, but imposed upon another as a penalty enforced upon some occasions with a knowledge of its source, and upon others without it. The field of these impulsions is characteristically that of the deeper disturbances, whose analogies to the symptoms of actual insanity hardly need emphasis; and it is thus characteristic because such disturbances involve a loss of personal adjustment. Such status belongs to them notably in so far as they are of spontaneous origin and force their entry upon the active concerns of life. Impulsions with restricted spheres of influence, confined to segregated areas, or artificially produced, are exemplified in the transient disquali-

fications of automatism and hypnosis. When in such states of enfeebled initiative suggestibility appears, it does so, not as an added or accidental phenomenon, but as a natural consequence of the former; the existence of the impulsion is an expression of suggestibility. When the independence of initiative is reduced towards complacency, and all assertiveness and resistance is exchanged for abeyance or passivity, the vacating thus induced opens the channels to any vigorous solicitation to which the mind may be exposed. It is the presence of normal initiative that prevents our muscular system from being played upon by any chance appeal, and reserves its use for the expression of our own will. With this disabled or suspended, by whatever means, the responsiveness to suggestion follows inevitably, and will proceed as far as the retained powers permit. Hence the wide range of suggestion in hypnosis; and hence also the liability of such developed automatism to involve as well loss of incorporation and orientation: for the tenantless condition of the brain reduces the psychic organism to a curtailed status, with restricted sensibilities, thought, and will; and of which the abnormal, at times seemingly incredible, domination of imposed impulses is the most notable issue.

The combined privileges of incorporation, orientation, and initiative acquire meaning with

reference to a self; with the conjoint impairment of all, an altered state is induced; and when such alteration is enduring and pervades the active life, the integrity of the self is forfeited, and the possibilities of unified conduct and development proportionately lost. It is because this active factor of the mental progression is so commanding, that the sense of initiative is of all the participants in the mental procedure the most intimately bound up with the personal feelings. That this *feeling* of the ego as the prime mover and maintainer of the psychic life is not the whole of personality, and possibly only a sensible index thereof, needs but moderate emphasis. The *feeling* of self-activity is an acquisition variously exercised and variously forfeited; its maintenance — doubtless a most complex affair — centres about the feeling of transition from one moment of consciousness to another, with some reference to the variable content of each, to the shifting of attention incident to its incorporation, and to the feeling of effort needed to reach the next logical step. I become the more deeply conscious of my striving self, the more strenuously, and possibly obstructedly, my thought-progression proceeds. If the flow of thought comes copiously, luxuriously, I seem almost to lose the feeling of self-activity; I am inspired as if writing to the dictation of some outer prompting; and when my efforts are painfully unprofitable,

I cannot forget myself in my work, but am ever the more conscious of my own impeded initiative. Accordingly, the loss of the self-feeling (not the loss of personality, to which, however, it has subtle relations) will be furthered by the lowering of the transitional attentive feeling that brings the incorporating, orienting, initiative issues to the awareness of their common motive source. The release of all such involuted awareness, along with clear mental contemplation, particularly in regions where doubt has long held sway, might well take on the guise of revelation, the cessation of struggle, the unification of conflicting *pros* and *cons*, the vanishing moment of the striving self; and it is as such that I am disposed to interpret the sense of mystery unveiled that descends upon the more philosophically disposed ether-visionaries. That the revelation proves empty of content, and the very words recorded while the Delphic voice is still vibrant preposterously irrelevant, need not disconcert us; for we are dealing with the release of a feeling, an impression alone. Ether seems peculiarly disposed in favorable temperaments — by what affinities we know not — to incite reflective, contemplative, philosophic visions; and with the suspension of all feeling of effort, with the vanishing of the objective world, the seer becomes intimately merged with his thought, has no feeling of reaching his conclusions by transitional

steps, but soars in the realms of exalted truth, seemingly momentous, because potent to dissipate his most troubled, most baffling obsessions of doubt.[1]

Such loss is particularly connected with contemplative attitudes, because in these the relations of incorporation and initiative have already been in large measure suppressed. To facilitate such inner concentration, I have sought freedom from stimulation, and, if writing, have narrowed my motor field to my pen and my paper; or I may sustain my reflections with closed eyes and motionless body, if absorbed in less formulated thought. It is easier to lose the sense of transition when the steps are ideal, not objectively registered, and thus become one with the thought. In the delineations of religious ecstasy there is always emphasized this loss of personal feeling, of worldliness and struggle, in an identified unity with the object of contem-

[1] It is for this, along with other bearings, that a detailed account was given of the ether revelations (pages 245–251). They are interesting as illustrative of the prevalence of orderly principles even in realms seemingly most remote from predicable sequence, and of the kind of generic basis that in many instances must be acceptable for lack of more specific interpretation. It is at once with surprise and with gratification that one meets with a recorded corroboration of a view arrived at by an individual mode of approach. In this connection I record with approbation of its able argument, the very similar presentation — in so far as the two touch upon a common field — of the article by Miss E. D. Puffer in the *Atlantic Monthly*, February, 1900, and included in modified form in the *Psychology of Beauty* (1905), pages 59 *sqq.*

plation, — a state not inaptly described as self-hypnosis. Yet in lesser measure the self-feeling disappears when I sit passively at the theatre with eyes and ears only for the stage, and forget myself in the play, as with different attitude though in analogous manner, the actor loses himself in his part. The transitions are here so effortless, so spontaneously engaging, that I seek such distraction in recreation from the more strenuous occupations of the day. In all these instances the self-feeling vanishes, while yet mental alertness is retained; if that were lost, sleep would ensue, or at best dreamy revery, and leave nothing to record. Yet it is pertinent to note that in many individuals by the peculiarity of their constitution, and in many states for all, the alertness of mental effort is conditioned by sensory alertness. Such persons think best with pen in hand or while dictating, spurred to instant record. They cannot think intently in the dark at all, requiring the sustaining symbols of alertness to support their initiative. Quite similarly, the closing of the eyes is used to bring on a state of release of guidance out of which hypnosis emerges; and in light hypnosis the opening of the eyes brings the subject back to wakefulness. It is hardly accidental that in the Beauchamp case, the development of Sally's powers as an independent personality flourished from the day when this wayward individual got

her eyes open without lapsing into another phase of her being. Thus the sense of alert initiative is most closely connected with the sense of personality; it is in the active expression of my being that I *feel* my personality. Hence when, in situations so unexpected as to tempt me to question the evidence of my senses, I resort to the expedient of pinching myself to see whether I am awake, the convincing factor of the test is not alone that I feel the smart, but that I am able to do the pinching; I prove my initiative as well as my incorporation, and thus establish my orientation as normal.

We are now prepared to resume the earlier considerations that centred about the distinction of revery and alertness, of drifting and concentration. If in the departure from the normal we are headed towards attitudes of increasing purposeful abstraction, we are preparing by such unevenness of attentive distribution for the entrance in the neglected areas of subconsciously dominated procedures. A reference to the incidents of normal lapses of consciousness and to the conditions favorable to their occurrence, is sufficient to reinstate the normal issue, as well as its affiliations with the abnormal field. Exaggerated concentration is familiar enough, and likewise presents a distinct temperamental variation. There is in some individuals a natural inclina-

tion to become lost in thought, to do absorbedly whatever occupies them, and while thus engaged to remain immune, by the intense set of their attention, to outer solicitation. Absent-mindedness is the penalty paid for such concentrativeness; while too responsive and flitting activity — possibly in the extreme a scatter-brained disposition — fails to adhere to purpose sufficiently to reap even modest rewards. We gauge the depth of such concentration, as we do the depth of sleep, by the vigor of an appeal from without that yet fails of response. Insensibility is the simplest consequence of extreme concentration, and consists, as we have seen, in the falling out of the field of awareness of privileges normally present. The portal narrows; and the interpretation of the psychic situation must take note as well of what goes on within the audience-chamber, as of what with a normal condition of the ingress would likewise have been admitted, but is now excluded. Such states of narrowed access are somnambulism and hypnotism: the first a minimum step towards wakefulness, alert only to a dream-imposed singleness of purpose, with no other responsiveness than the familiarized automatisms that are adequately regulated by lowered initiative; the second an extreme phase of exclusive concentration, arrived at by an opposite approach, through the curtailment of receptive-

ness and the maiming of initiative, while retaining access to the motor apparatus in the service of a larger suggestiveness and a more vigorous mental energy.

We may, indeed, go farther back towards conditions of abeyance and make connection with the constructive logical dream; this, presumably retentive in some measure of its characteristic movement, presents a thought-awakening, while yet sensibilities and will are unaroused, and presents the elaboration active upon the basis of inner resources, in dissociation from all other phases of the alert mental movement. Somnambulism adds thereto a restricted sphere of action, and thus becomes an active constructive dream; it likewise incidentally demonstrates certain of the further issues (such as suggestibility) of a restricted and dissociated alertness. Hypnosis carries the unorientated alertness to its ultimate issue. Upon the side of debarred privileges, it illustrates how such handicapped mental movement develops psychic anæsthesia as selective, as complex, and as extensive as suggestion is ingenious; and again in the positive field develops equally hallucinations and the varied distortion of the real world by projections from the realm of suggestion-inspired imagery; and finally, how the same limitations encroach upon the field of action and there find their most salient demonstration. The subject

acts out his hallucinations, undergoes the most convincing test of his anæsthesias, exhibits alike the paralysis of will and the more intimate service of motor channels inaccessible to normal control. The mode of manifestation of these losses of privilege is equally indicative of the retained field: the direct availability of motor channels to outer suggestion is pronounced because the possibilities of inhibition are themselves inhibited; the retained alertness of elaborative procedure is sufficient to command an unrestrained and simple, and in exceptional cases a complex range of logical procedure; the retention of sensibility is adequate to the imposed tasks, and by suggestion may be raised to exalted values. Yet all these functions are dissociatedly manifested, and make but slight and uncertain connections with the normal self. It is because of the completeness of this loss of relationship with the normal personality — itself the expression of narrowed-mindedness — that hypnosis offers ready occasion for the establishment by suggestion, of an altered self, which in turn may be developed into a fairly consistent character (or successive assumptions of several characters) through frequency and systematic ordering of hypnotic experiences, aided as ever by the natural temperament and histrionic susceptibilities of the subject. The connection between the normal and the hypnotic self will, without special interference

by suggestion, be attenuated, so that the actions of hypnosis will make no report to the normal registry; or more accurately, what is conscious to the one dominance is subconscious to the other, and thus requires subtle, indirect, and paradoxical procedures to elicit evidence of what the primary allegiance ignores. From this status no factor of the complex alteration of personality is lacking, except the more concomitant appearance of the two dissociated phases; and this is supplied by the post-hypnotic suggestion, that presents the same grouping of phenomena under a more natural light, in which an almost normally orientated alertness may look upon and accept, as best it may, the intrusion from the dissociated realm.

It is in its application to the distorted growth and crippled impairment of personality that the principle of dissociation finds its most complex and in a sense crucial test. Such phenomena thrive in the instability of hysteria; and fundamentally hysteria is contracted personality. It is abnormal concentrativeness of more enduring and systematic type, conditioned by functional disordering. The mental energy is deficient, enfeebled; the normal scope of mental concerns cannot be encompassed, and some phases thereof must be sacrificed. The mental realm disintegrates by lack of centralized power to hold it together; something falls away by the shrinkage or withering of its connection

with the vitalizing core — which is the maintenance of the personal life. Though conditioned by organic relations, a psychic order of values prevails in the enforced losses, that yet partake in restricted measure of the nature of rejections. When called upon to sacrifice, we yield our possessions rather than any part of ourselves, what we *have* rather than what we *are;* and it is this principle[1] that directs the loss of realms of incorporation, and saves, so far as may be, what is intimate and indispensable to self-preservation. That such enfeeblement is itself fluctuating, and makes possible in the lesser disabilities the alternate regaining and loss of the more complete personality, follows naturally from the prevalent instability; the self, again in better circumstances, takes out of pawn, as it were, what has been deposited in its own subconscious treasury. Quite commonly such is not enduringly or completely possible; and the handicapped self must establish such relations with life as its crippled resources make possible. Concentrativeness — narrow-mindedness in a psychological sense — of this peculiarly organic type is not casual, but more or less chronic; and the very condition that it intrinsically represents brings with it the further specific impairments that follow as related issues of the common underlying restrictedness.

[1] See pages 310–312.

Holding in mind that the debarred privileges and energies are sacrificed only in that distinctive, or possibly equivocal manner that retains them in suppressed or detached function, one may readily trace the consequences of such peculiar loss. It begins with an incorporative impairment; and inasmuch as such adjustment to experience is the guiding clue to a large range of action, it follows that the field of expression will be almost equally invaded. Knowing and doing are so intimately integrated that anæsthesia in the former field leads to psychic paralysis in the latter. The psychic nature of the defect is in no aspect more definitely discernible than in this relation: the very act, that as an expression of initiative the hysterical patient is unable to perform, becomes easily possible by the direct transfer of stimulus to coördinated movement through the unimpaired lower order of responsiveness, when the maimed personality is circumvented.[1] As a further consequence, in this deficiency the incapacity is not regulated by the disabling of muscles, but by the organization of conduct. On the one hand, significant fields of awareness fall away, and on the other, significant groups of behavior; while in both instances the lower orders of assimilation and responsiveness are retained, and by devious paths reach expression. With such comprehension

[1] Illustrations thereof will be found on pages 317–319.

of the type of symptoms that follow the enfeeblement of energy and of dissociation concomitant therewith, the special groupings thereof which particular hysterical cases represent, become no more of a problem than the varieties of temperament and experience inevitably make them.

It is, then, because of the sacrifice of full-measured incorporation, orientation, and initiative through psychic contractedness that the hysterical consciousness becomes the most versatilely instructive embodiment of subconscious activity in the abnormal field. A further consequence of such forfeiture of higher privilege is the reversed perspective in which the normally subconscious, and notably the semi-organic, types of procedures, that in a normal sweep of consciousness have but slight representation, find prominent and tenacious registry. Being cut off relatively from the higher and outwardly directed phases of mental life, the hysterical consciousness is more sensitive to the inner and lower ones. The insistent prominence of bodily symptoms in hypochondria is an instance thereof. The liability of hysterical patients to an aggravation of their peculiar symptoms under emotional shock is another; and this in turn is but an exaggeration of temperamental sensitiveness, of which we all appreciate the nature by recalling how indelible are certain impressions, possibly coming upon us in a keenly susceptible

moment, that deeply stirred our feelings, and how readily, sometimes accidentally, these are reinstated by an associative shock or condition. Hysteria retains such sensitive mental scars; and through the slight irritation of these, there recur the disordering consequences of the original injury. Such trauma or shock is a common symptom in the genesis of hysteria and is retained in a subconscious order of registry, — a deep organic association that is ever ready to surge forward when a kindred situation arouses its dormant sensibilities.[1] It is through extreme development in this direction that mental influences are exerted upon functions, such as circulation and the metabolic changes, normally remote from the conscious field; and that thus hysterical hyper-sensitiveness to organic registry and control becomes significant for the interpretation of the fertile realms of mental therapeutics. Upon the more intellectual side, the relation indicates, once more, the availability to the partially disenfranchised consciousness of resources that normally depend upon the happy support of favoring issues; it appears also in the power of suggestion to restore memories that have lapsed from the more conscious standing, — a result as significantly shown by the ability of Miss Beauchamp to recover by "fixing her mind" what otherwise is lost, as in the more normal "crystal

[1] The instance cited on page 371 is peculiarly explicit.

vision" of Miss X. The far-reaching potency of this explanatory principle — thus expressed as an increased penetration into and command of subconscious procedures, and derived as a consequence of partial dissociation from the normal conscious status — is to be traced throughout the extensive annals of hysterical exaltation; for it is this phase of psychic abnormality that has led to popular misconception of its nature and to extravagant views of its import.

Dissociation accounts not alone for the most distinctive phenomena incident to impaired personality; it accounts[1] for the alteration thereof. The dissolution of the feelings of self-activity has already entered into our analyses; the dissolution of personality is a far more comprehensive impairment, with larger affiliations. Personality encompasses the organic feelings, the vividness and warmth of one's own experiences, the continuity of memories, the consistency of character, and much besides; its disturbance may be precipitated or furthered by serious changes in any of these phases of being. If I were suddenly to become subject to wholly strange types of organic sensation, or were to find no familiar landmarks of assimilation, or if I were to lose my experiences

[1] In so far as such accounting is in terms of descriptive details or their immediate interpretation, reference may be made to pages 323–333 and 403–406.

and recollections and find myself stranded in a foreign realm, I certainly should be a different individual; and should, however, realize the change only in so far as I retained some measure of my former self.[1] Under a complete disability, I may simply forsake my personality and know nothing of my desertion, starting life as if anew; and hours or days or years later, I may suddenly awake with a painful sense of a gap in my orientation, — finding myself amid unfamiliar surroundings, with my former feelings and memories restored, and bewildered by my out-of-relationship to the present. Such change is naturally the issue of a sudden wrench of the normal orientation from its moorings, and finds its analogies in the changes of personality by suggestion, in hypnosis, and in their speedy termination with the resumption of the normal self, when the obsession is lifted. It finds further analogy in the sense of strangeness and difficulty of orientation that ensues when life must be resumed under sadly altered conditions, with an intimate part of our life or our

[1] The change of bodily sensibility exhibited in such a case of altered personality as that of Louis V. (page 384) is a common symptom; the change of mood and disposition, doubtless under similar conditions, such as is exhibited by Felida X. (pages 377, 378), is even more common. The loss of memory is best illustrated in such cases as that of Mr. Bourne (page 386) and those following, while the most sudden and complete loss is exemplified in the case of Mr. Hanna (pages 394 *sqq.*). Each aids to induce an altered personality.

possessions taken from us. Readjustment under such circumstances, though quite without the exaggerated perplexities that obtained in the case of Mr. Hanna, has yet the same problem of the joining of the old and the new, the reconciliations to the past, the finding one's self in the present.

In bringing these considerations to bear upon the status of altered personalities as they appear in a biographical sketch of their unfoldment, one must forego too individual an interpretation. Psychology can be called upon no more legitimately than any other science dealing with organically variable data, to account for the precise and concrete issues of the principles whose generic validity is its chief concern. It is no more possible to furnish, and no more warranted to demand, detailed accounting for the particular issues that disintegration assume in a given instance, than it is to expect a like interpretation of a normal individual in which his every trait, thought, action, emotion, attitude, and experience shall be consistently derived from an analysis of his psychic composition. The profitable interest is not in the wholly unpredictable issue that may follow upon a disorganizing shock or distorted growth of the mind, but in the generic relations involved.

It has been duly set forth that such disqualifications in the deeper concerns of the mind have, on the whole, two distinctive modes of origin,

with allowance both for transition between and combinations of the two; of these the shock, particularly in cases of a mature personality, reduces the self to a lowered, in some cases more aptly a transferred range of endowment; the other and more instructive variety suggests a developmental flaw, which induces transiently or more permanently a failure to achieve the unified coherence of the mental life that is the normal expression of individuality. Such differences of origin naturally entail a different perspective of retained and lost functions, yet may be expected to follow common principles in the status of what is distortedly retained or variously curtailed. In respect to versatility, actively developing abnormalities are naturally more instructive than mere reduction of privilege; yet the latter bring the compensation of greater definiteness and freedom from subtle complication, while in cases of successful reconstruction of the shattered personality (notably that of Mr. Hanna), they in turn offer the genetic stages of recovery, in which the relations between the new and the old become peculiarly instructive. Having these in mind, but focusing the considerations more particularly upon the instances of the warped development of a maturing self, we may pass in final review the principles that obtain in such failures of personal adjustment.

Personality has been set forth not as an inev-

itable datum, but as an achievement, — truly a normal issue furthered by the ordinary vicissitudes of life, yet one whose establishment may involve struggle and compromise, relinquishment, and concentrated as well as sustained purpose. The manner by which such an issue arises, and the essential contribution thereto of the lower registers of consciousness, indicate that failure in this respect must proceed from a comprehensive disordering of all the constituent phases of the mind's progressions. Hence the impairments of altered personality encroach upon the joint realms of incorporation, orientation, and initiative; and a composite and pervading disordering of the three with reference to the actual environment is of itself sufficient to induce an alteration of personality. The manner of such impairment is the individual factor in the case, and varies according as it is the expression of the unsettled promptings of adolescence, or again the summary dethronement of an established self. A further generic principle enforces that the distinctive quality and manner of such impairment is that to whose nature the analysis of hysteria furnishes the essential clue.[1] Stated roughly, the relations

[1] Such statements refer obviously only to those types of loss that come within the field of the present essay. More permanent and organic, as well as otherwise motived alterations of personality are common in insanity, and require a different range of principles for their interpretation.

in alternating personality, of the one self to that which replaces it, or in more complex cases, to its dissociated counterpart, resemble the normal intercourse between such organized phases of conduct as are distinctively the concern of consciousness, and those that are more particularly maintained by subconscious service. Yet the relations in the one case are normal and in the other abnormal, with, however, a significant affiliation between the two. The type of abnormality that thus obtains is summed up in the comprehensive significance of hysteria. Thus considered, altered personality of such distinctive type becomes the consequence of a dissociative "fault" based upon an hysterical enfeeblement; such alteration becomes crystallized about fairly constant axes into a more or less consistent yet abnormal personality, and becomes so through the coherence and systematic grouping of such recurrent states, with their peculiar losses and retentions. The building up of this altered self is no spontaneous or miraculous achievement, but follows, though irregularly and waywardly, the same lines of psychic development as obtain in the normal establishment of a unified personality. The personal centre is shifted, as it were, and each personality is eccentric to the other.

From this point forward, the interpretation must proceed towards more individual and detailed

analyses, for which the descriptive data may themselves be regarded as sufficiently representative. Why one individual and not another succumbs to such disintegrating tendencies can no more be determined than why in succumbing he presents one series of abnormal sequences and not another. It is just at this point that the emphasis of a wholesome perspective draws attention to the general principles and not to the variant details. It is not Mars and India and Balsamo and Marie Antoinette that engage our interest in the story of Mlle. Smith and her trance-personalities; nor are we over-anxious in regard to the precise source or significance of such imaginative vagaries. We are interested in the measure to which such detached mental energies conduct a sustained and coherent construction; in the slow maturing of what seemingly bursts forth as the inspiration of the moment; in the dramatic completeness of the alterations of personality that here are confined to a circumscribed area and (with occasional exceptions) hold aloof from the intimate world of daily intercourse; and in the many indirect evidences that the story furnishes for the subtle and pervasive influence of subconsciously dominated integration. Similarly, the case of Miss Beauchamp is significant, not for the detailed incidents and perplexing unfoldment of the intricate plot, but for the general significance of these features. The story illus-

trates particularly the possibilities of a multiple partitioning of several components, which themselves change and develop intricate relations to one another; it illustrates, further, the important varieties of such disturbance, in which the divergent personalities appear more or less simultaneously; it illustrates the comprehensive scope of such a conflicting self as "Sally" in relation to the more successive or partitioned phases of being represented by the other selves; it illustrates as well how diversified, overlapping, and yet distinctive are the habits, tastes, endowments, acquisitions, and memories of the several states; and it illustrates how the restrictions of the several conditions may be released by the artifice of hypnosis and thus pave the way for the mutual reconciliation of opposing phases, the extinction of the interfering opposition, and the restoration of a consistent individuality. In such service, these, as other cases, bring their worthiest contributions to our knowledge of abnormal psychology.

Dissociation stands for divided mental alertness, a fractional type of procedure combining activity in one realm with quiescence or disqualification of what in a normal attitude would be associatedly active. Concentration is itself a miniature phase of dissociation; profitable work demands relinquishment, exclusion, abstraction. Yet all these terms are relative, and the varieties of dissociation,

indeed the intrinsic nature of the conception, provide for a partitioning of activity; for there is activity in the lesser, diverted currents as well as in the main stream: such concurrent yet in part independent flow, or, more characteristically, the alternate rush of the waters now into this channel and again into that, marks the dissociative trends. The ellipse of dissociation is described about the two foci of contracted or partial activity and of partitioned activity; the conjoint development of the two appears in the pronounced disturbances that distort the central unity of the self from its simpler orbit.

The relation may be summarily outlined; and first as partial activity. If I were able at will to fall asleep, I should expect such altered state to involve the loss of the world of sense, the world of thought, and the world of action. It seems less natural that I should be able to throw myself or be thrown into a condition in which I should lose the orientation to the outer world and yet continue to think and express thought by action; such would be a dissociated state. Yet I appreciate that when in sleep I entertain dream-visions, I do thus partially and distortedly regain my elaborative activities, and yet do not feel nor act. I appreciate that sleep-walking or the active dream is the unusual experience because a state in which I can get control of my muscles and make them walk and

talk, or otherwise coördinate them to coherent behavior, is also a state in which I am attentive to my surroundings, and am indeed no longer asleep but awake. So complete an initiative is the counterpart of a complete orientation; but a suppressed initiative guides my somnambulistic efforts without arousing me to awareness of my surroundings: hence it is dissociated activity. The immediate consequence of such partial mental energy is a partitioned energy; for what is done by the somnambulist is not recalled by the waking self. Consider the relation conversely: suppose that an impulse about as coherent and pertinent as that which starts the somnambulist upon his quest were to present itself to my waking consciousness. It could not achieve expression without consent of my alert initiative; the motor mechanism is reserved for my associated activity, and if such impulse were peculiarly tempting, I might resort to the device of keeping the machinery otherwise engaged, knowing well that temptation comes more enticingly to idle hands. Normally adjusted conduct thus resists dissociation. Transfer the situation to the hypnotic field,—and you have at once a different type of personality to deal with and an enlarged range of dissociated activity. The normal self with its full-measured associative privilege is now replaced by a personality whose sensibilities are dissociated from the

complete incorporative organization that dominates the normal attitude, whose activities are equally debarred from an integral initiative. Hence the decided loss of relation between the hypnotic and the normal activity, as well as the indirect mode of intercourse between the two, becomes the most significant expression of the dissociatedness.

At this point important distinctions enter, and particularly in two directions: first, the degree of complexity that the dissociated conduct attains; second, whether it is alternate or concomitant with the normal dominance. The first query sets the problem of tracing the course of the dividing rift, the intricacy of its ramifications, placing the retentions on the one side and the losses on the other, and establishing precarious fording-places between the two, where the bed of the stream is shallower than usual. The simplest division would be the horizontal one of higher and lower; and such reduction of status appears in the varied automatisms of somnambulism and hypnosis, and in the hysterical impairment of personality. Yet the possibilities of suggestion and the vagaries of hysteria offer divisions of psychic endowment—meandering lines of separation of personal phases of conduct—of such perplexing intricacy as to be amenable only to the most generic interpretation. The two realms formed by such an organic scission out of an underlying unit of sovereignty,

establish a manner of intercourse that becomes the subtle index of their psychic intimacy. Such complex behavior requires the withdrawal of the normally dominant self, and accordingly appears in alternate sequences, yet not without intrusions of the one field into the other. The concomitant types of dissociated activity play their parts, like the others, upon a common stage, not in separate scenes, however, but in different settings upon partitioned areas of the same "shift." The one set of activities continues, like a prolonged "aside," accompanying a movement for which it may have real or but casual pertinence. Such possibility is ever indicative of lesser depths of dissociation. Automatic writing appears in some cases amid full alertness; the subconscious elaboration of thought commands the hand, while the dominant personality commands the voice and the remainder of the expressive equipment. Yet in most cases the automatic writing entails a loss of orientation, — the entrance into a different attitude, in which normal alertness has been sacrificed. Similarly, when Mr. Hanna is able to appreciate concomitantly the struggle between the two selves, at last confronted with their urgent reconciliation, the possibilities of fusion are near at hand; and when Miss Beauchamp can bring to a common interview the representatives of her inner conflict, their subconscious dominance is on the

wane. Yet the latter case is equally instructive in the opportunity afforded by this versatile household for the intrusion of the one influence into the life of the other, and for the strategic disclosure of such other-consciousness concomitantly with the dominant expression. It is the practical translation of the principle of dissociation into the varieties of abnormal experience that gives this conception its comprehensive import in psychological discussion.

The further query remains as to what occurs when a portion of the domain or a partial dominance is surrendered, and how the varieties of such surrender are conditioned. That we are dealing here with a narrowing, an enfeeblement, at times a morbid exclusion, is clear enough; but the question how the narrowing comes to entail such peculiar groupings of disqualification points to the portion of the problem for which we have at present but an empirical solution. We can trace the development of such surrender in degree and complexity, but must resort to hypothesis when we demand a more intimate interpretation. We can record that in its lesser form it is more in the nature of an exaggerated disposition, — one of many disproportionate developments inherent in the varieties of human character. When thus present, it may well bring with it its compensations; and without such subtle tendencies certain worthy forms of human endeavor

would doubtless fail of achievement. Even genius may find its allegiances in this realm. In the intermediate grades it becomes questionable how far liability to dissociated states is to be looked upon as a psychic impairment, or as simply and without qualification a deviation of disposition. Hypnosis may be said to include this neutral ground; many who readily enter this state and present its most pronounced phenomena give clear evidence of their affiliation with other phases of psychic shortcoming. Yet others present such susceptibility seemingly as the limit of their dissociability, and it may be with a fair restraint in the manner of yielding to the obsessions of the state. Such individuals often possess decided mental vigor and attainments, which may, however, be achieved in spite of, rather than in freedom from, all measure of mental abnormality. It is safer to restrict the term defect or deviation to its psychological sense, without implying any judgment of inferiority or lowered moral esteem. Our minds are quite too wonderfully made to permit of easy judgments of gain or loss. For deviations from normality in one combination may present the condition of prized achievement, and in others of disqualification merely. But whether highly or lowly appraised, whether it facilitates the productiveness of a fertile mind, or encourages extravagance or derangement, the intrinsic nature of dissociation remains

the same. Our ignorance of just what takes place in the mental estate when the partial and at times enforced relinquishment ensues, that introduces so altered an economy of its resources, is but part of our limitations of knowledge of the intrinsic nature of the mental movement. The most promising outlook for the lessening in any measure of these limitations is by a discerning cultivation of the abnormal field under guidance of principles that find their surest support in normal psychology.

III

CONCLUSION

The impression left upon the mind by such intimate examination of the less exposed aspects of its conduct may not inaptly be reflected in the conclusion that man does not live by consciousness alone. Older and deeper are the psychic dispositions on the basis of which, by some as yet unrevealed history, consciousness may have developed, and developed to meet some need not adequately provided for by the inherited endowment. Such response presumably required a larger measure of coördination among the functioning dispositions, and succeeded in meeting the situation by a higher synthesizing efficiency. It is above all in the integration of experience that the supreme and unique function of consciousness lies; such is its peculiar and normal privilege and service. Nor is the unity thus established impugned by the extensive liability to disintegration to which the mind surrenders under stress of circumstance and frailty of constitution. On the contrary, these salient illustrations of the issues of disqualification — though beset with much wayward and unaccounted detail — enforce the allegiance to the principles that dom-

inate the growth, conduct, and vicissitudes of the normal human mind.

The application of evolutionary conceptions to the psychic realm has proved so illuminating throughout all portions of the domain, as to require of every proposed principle a thoroughgoing conformity to this commanding conception. Principalities of a common power, the several sciences dealing with living relations share in this allegiance, and must each shape the ordering of its own estate to this inclusive dominance. To secure acceptance, an interpretation of the varieties of subconscious activity must readily find place in a system of mental evolution. Primarily, the subconscious must appear as a natural issue of the mental constitution, by exhibiting intimate relations to the mental economy. It must likewise maintain, through gradations of increasing complexity, coherent participation in the more developed mental concerns. Such transitional stages and sequences of unfoldment constitute the further test of its validity. But all evolution implies a liability to arrest and decay, deformity and enfeeblement. Functions display their import as significantly in the issue of these dissolutions as in the manner of their upbuilding. Yet the paths of dissolution are inevitably manifold and intricate. The emphasis of the evolutionary forces is towards a type, an adjusted standard; the means to this end is through diver-

sity and variety, — a versatile experimentation with the many that are called, in order that the fittest may be chosen. There is a trend in the affairs of evolution that intercepted at any stage shows the direction of the current which carries the process along. The convergence towards a normal product enforces a coherence of tendencies; but the paths of dissolution are puzzlingly divergent. Yet in the organic system the manner of impairment reflects the influences that determine normal growth; in this relation lie the significance of abnormal deviations, and the clue to their import. To disclose the order and psychological affiliations of this realm has been the purpose of the present undertaking.

While confining the exposition to what is offered as the most convincing interpretation, it is well to appreciate the attitude of a differently derived and maintained survey. An opposite theory has framed its conception upon a fundamental emphasis of the schism of conflicting personalities, and upon the exceptional nature of allied phenomena. To account for these, it supposes the existence in the mental constitution from the outset and in all its phases, of a factor wholly different from any here recognized, a pervasive influence in the psychic organism that only in exceptional circumstances becomes articulate, and is thus hampered in its expression, because until released from the thrall of ordinary consciousness, it cannot

throw off its enforced silence. It awaits the rare conjunction of circumstance and temperament, and then shoots forth in spontaneous perfection. It reaches independent expression in the emergence of a new personality, in the exaltations of trance, in the superior susceptibilities of hypnosis, in the inspirations of genius, in the peculiar endowments of gifted souls. The issue may be most tangibly presented when applied to the interpretation of the calculating prodigies, whose performances certainly exhibit a more than ordinary development of some type of subconscious facility. In giving name to the theory in question, let it be the designation in common use among its adherents: that of the subliminal self. It admits that a decided proficiency in rapid calculation may be developed upon the basis of intensive cultivation and natural talent, and that performances so achieved may indeed be notable; but it regards certain of these performances as not thus explicable, but as evidence of a wholly different mode of procedure. It points out that the performers are often boys of no high order of general intelligence, whose own accounts of their training and methods contain no adequate basis for such extreme facility, and who, indeed, regard themselves as the receptive instruments of a faculty that is somehow exercised through the agency of their mind, which passively receives the solutions as a revelation.

While admitting, as applied to our general proficiencies, that much of our intercourse is replete with short-circuiting processes, that our notes of experience are recorded in a mixture of long-hand and short-hand characters, in the interpretation of which we have acquired a facile talent, the view in question none the less holds that in unusual cases, characters appear that are not stenographic records of ordinary experience at all, but are of an independent alphabet, and bear a message removed from the ken of the mind that is ordinarily directive.

In development of this conception, the theory discovers in hypnosis the exercise of a power by which is thus subliminally revealed knowledge that has no origin in the experiences open to the self that responds to the ordinary vicissitudes of life. It regards hallucinations as of the same status, and attempts to determine their import not from inner analysis, but from the detailed conformity of their content to objective fact, at times in anticipation of the future, at times in overcoming temporal and special limitations. The exalted sensibilities of hysteria are similarly appraised; and alterations of personality become the most explicit expression of a release of the confined subliminal self, whose experiences, though seemingly trivial and chaotic, and for the most part admittedly decadent, are akin to the recondite sources from which,

by a different use of a common privilege, the exceptional man of genius draws his inspiration. The very latitude of this theory makes it hospitable to a wide range of considerations, — many of them supported by questionable data and strained interpretations, — and renders it liable to affiliation with "occult" conceptions of every shade and grade of extravagance. This "tumbling ground for whimsies," in Professor James's phrase, there is no obligation to inspect. It is proper to direct attention to the serious shortcomings of the theory of the subliminal self, when most conservatively framed and when applied in the spirit of psychology, not of a plea for the supernatural.[1]

[1] It is not part of my purpose to enter into a controversial appraisal of the merits of this theory. To do so would require a judgment of the validity of a great range of evidence, much of it discerningly collected with due regard for the ordinary precautions to be exercised in the record of narratives that tax credibility, and more of it plainly worthless. I confine myself to the psychological legitimacy of the point of view, its logical warrant, and its capacity to illuminate the general field to which it aspires. I must, however, refer to the fact that the popular adherence to views of this type may frequently proceed through certain weaknesses of the human mind, partly logical and partly psychological: the over-emphasis of personally interesting incidents, the insistence upon minute and individual explanations, the failure to appreciate inconsistencies with established principles, and possibly above all, a more or less disguised preference for beliefs in transcendent, or more plainly "occult," influences. Certain expressions of these tendencies, I have treated in another volume: *Fact and Fable in Psychology*, 1900. In the present connection I am considering only such formulation of the theory as accepts the obligation of compatibility with established psychological doctrine.

In the appraisal of such a theory of interpretation, two considerations are dominant, and each affects the other: the establishment of the facts, and their significance. Neither is quite so simple as appears in a cursory view. Whether a phenomenon —frequently involving an intimate circumstantial narrative—is discerningly reported cannot readily be decided, especially when an underlying interest in the pointing of the moral unwittingly adorns the tale. The inexplicable and the obvious, like the sublime and the ridiculous, at times are separated by a slight transition. Yet more influentially does the allegiance to certain trends of interpretation attract fairly simple facts from their natural habitat and give them an extraordinary setting; an allied tendency likewise determines the perspective of significance that is attached to common and creditable data. It is indeed the exceptional student of these phenomena whose adherence to such views is forced upon him by the demands of his logical convictions. In the decision between the interpretation here proposed and such other as may claim a hearing, there enters inevitably a large measure of general intellectual inclinations; and the issue must be left, as it may safely be, to the judgment of those whose critical acumen forms an adequate check upon their personal leanings. While logical arguments play a variable part in shaping convictions

in this domain, it is best to set forth in purely objective appraisal, the logical status of the theory that chiefly disputes the field with the one here supported.

To begin with, it seems difficult to understand how such an independent, and in its essence transcendent capacity could have found maintenance in the evolutionary conditions of our being. To conceive it as an atavistic function that is in its decadence is clearly unnatural, because such functions can hardly be concerned with the economies of elaborated and highly complex service; atavism is survival from below, not a culling from above. It can only be urged that consciousness is itself a lapsed function, adjusted to the present stages of evolution, and has thus replaced a form of psychic energy that existed previous to consciousness, and achieved a perfection of mental efficiency similar, though superior, to that offered by our present form of that privilege; such issue was attained by service of susceptibilities now lost except in sporadic instances. Those who courageously embrace this view relieve themselves of further obligations to provide for subliminal functioning in normal life, and may be driven to this position by the difficulty of finding a place in the evolutionary field for a function of such occasional service and yet of such high potency and independent status. The feeble support that the

conception finds when gauged by evolutionary standards is further disclosed in relation to the higher products of mental evolution. It seems a very mockery of that process to carry the development of the mind as the issue of tortuous and minute steps, laboriously and uncertainly attaining to its present stage of efficiency, and then to have these endowments and achievements outdone by a confined and untutored "double," that this same mind has all the while unwittingly nurtured. A complete parallel to such a supposition is not readily found; not wholly unlike it would be the assumption that the eyes were admittedly developed by virtue of their utility as organs of vision, but that somewhere in the bodily economy — say under a fold of the skin — there exists an organ that by a survived potency from primeval days can now, with suppressed experience or service, occasionally convey to the mind, when the eyes are closed or when a saving blindness releases the imprisoned sense, the same type of visions as come through the retina, and yet more exalted ones. Until the conception can be better reconciled to evolutionary principles, it is highly improbable that it will find support by appeal to other logical considerations. The theory exposes its further shortcomings by a necessary admission of a different status for that large range of abnormal experience, presenting phenomena wholly

parallel to those that it interprets in its own favor, but which are decidedly free from the features that require the assumption of the traits ascribed to the subliminal self. It is the less urgent to enforce these and related objections, for the reason that the theory, being but slightly restrained by exacting allegiance to the large body of normal data and by the systematic obligations thus incurred, has little difficulty in accommodating itself to the evasion of such objections by yet further complications of like hypothetical nature. The Copernicans were quite ready, when the observed positions of the planets departed from the predictions based upon the supposition of the circular orbit, to "build, unbuild, contrive," with "cycle and epicycle, orb in orb;" the simplicity of the elliptical hypothesis of Kepler not alone did away with the cycles great and small, but rendered such questionable expedients unnecessary.

Yet in the end, the main justification for introducing any measure of controversy in a constructive essay is thereby to suggest how wholly transformed would be the interest, the interpretation, and the perspective of the data, under an allegiance markedly different from that which has been maintained. The subconscious as a natural function with the most intimate relations to consciousness, subject with it to like influences, —

both parts of a common synthesis, though of unlike service therein, — is a conception that in its origin, in the manner of its development, in its bearing upon specifically psychological issues, as well as upon the general view of life and mind, is diametrically opposed to that of the subliminal self. It is thus antagonistic by its support of a different logical attitude towards the spirit of scientific analysis, as well as towards the principles of the biological sciences; and it is so specifically by virtue of the altered perspective that it introduces into the outlook upon the import of mental phenomena. Without mitigating this incompatibility, it is proper to point out that in the intrinsic worth, and to a considerable measure the mutual relations assigned to the several groups of phenomena, the two views have a common interest, even common points of emphasis. Both find a place, though a different one, in the mental economy, for modes of achievement or for participation therein, that are preponderantly not of the fully conscious order; both recognize the disordering of mental impairment and the significance of variations in mental endowment, though with but modest agreement upon their interpretation; for the one view ever holds aloof from the supernatural implications of the other, and looks upon all the achievements of mind as brought about, not by any release of cramping limitations, but

by favoring development of the highest natural potentialities.

The achievements of consciousness remain the notable ones in the story of man's occupation of his place in the world, as well as the central concern of a psychological interpretation of the endowment that thus finds comprehensive expression. Consciousness expresses itself as an individual organic achievement; and by conservation of that integrating privilege, the individual develops his complex possibilities. The associations of the abnormal mental life are not with higher potencies, through release of imprisoned powers, but stand as issues of impairments and losses, and for the most part in unqualified manner. Yet it is important to recognize that groups of relations appearing exaggeratedly or distortedly in certain temperaments, are suggestive, in others, of conditions favorable to the furtherance of achievements distinctly to be prized. For there are types of consciousness common enough to be called normal that are yet undesirable; it is only the ideal man who displays none but ideal forms of consciousness. There are all sorts of disabilities, enfeeblements, hesitations, entanglements, indicative of mild frailty. That these sickly casts of thought are on occasion removable by the efficiency of a condition in which such inhibitions are themselves released, and that by this aid the mind is liberated to more

natural expression, is abundantly established; for such is the principle that pervades alike the freer flow of soul under physiological stimulation or the psychic encouragement of a sympathetic audience, and the notable relief of nervous disabilities by hypnotic or mental suggestion. The relation is most readily extended to include within the temperamental field the enthusiasm of mood and interest and the goad of occasion, that unbend the natural energies to more fluent, more profitable, more inspired service. Such influences will be exercised most distinctively in those realms of thought that largely lie remote from conscious command, and like the emotional factors of our being, flourish in intimate dependence upon subconscious promptings and resources.

The intellectual kingdom is not to be taken by storm; the most insistent and strenuous efforts are not the wisest. Leisure is advised not alone by the *festina lente* of caution, but by the largest human experience that comes upon the choicest flowers in aimless loitering by the wayside. Nature provides for frequent and prolonged periods of abeyance, when are matured the supports of profitable advance. The point of view of consciousness is partial; its service, however central to sustained purpose, finds many of the deeply cherished expressions of the self most feebly at its command. It is not alone important for the psy-

chological interpretation of the mental life, that the study of consciousness should be completed by an appreciation of the less explicit sources of its maintenance; it is equally necessary for the life that we live, that we should frequently permit the focus of our concerns and of our struggles to fade away, and allow the surgings from below to assert their influence. As in the very moment when the feeling of self-activity disappears, the immersion in the occupation is most complete, so equally in the cessation of striving and in the falling back upon the corrective support of the subconscious, the natural law of the mind's worthiest service finds its most characteristic expression. In this sense, all that is meant by culture establishes as intimate relations to the subconscious as to the conscious factors of the mind; the knowledge that is conscious goes, and the wisdom lingers in the subconscious traits of character.

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